UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2021

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number: 001-35994

Heat Biologics, Inc.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**26-2844103**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
627 Davis Drive, Suite 400 Morrisville, NC	**27560**
(Address of Principal Executive Offices)	*(Zip Code)*

(919) 240-7133
(Registrant's Telephone Number, including Area Code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	HTBX	The Nasdaq Stock Market, LLC (The Nasdaq Capital Market)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer" "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of August 9, 2021, there were 25,397,376 shares of Common Stock, $0.0002 par value per share, outstanding.

HEAT BIOLOGICS, INC.

TABLE OF CONTENTS

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements, other than statements of historical facts, contained in this Quarterly Report on Form 10-Q, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

Forward-looking statements are not guarantees of future performance and our actual results could differ materially from the results discussed in the forward-looking statements. Factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, our ability to raise additional capital to support our clinical development program and other operations, our ability to develop products of commercial value and to identify, discover and obtain rights to additional potential product candidates, our ability to protect and maintain our intellectual property and the ability of our licensors to obtain and maintain patent protection for the technology or products that we license from them, the outcome of research and development activities, our reliance on third-parties, competitive developments, the effect of current and future legislation and regulation and regulatory actions, as well as other risks described more fully in this Quarterly Report on Form 10-Q and our other filings with the Securities and Exchange Commission (the "SEC"). Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict, including those identified below, under Part II, Item 1A. "Risk Factors" and elsewhere herein and those identified under Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 25, 2021 (the "2020 Annual Report"). Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. We undertake no obligation to revise or update any forward-looking statements for any reason.

As a result of these and other factors, we may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

NOTE REGARDING COMPANY REFERENCES

Throughout this Quarterly Report on Form 10-Q, "Heat Biologics," "the Company," "we" and "our" refer to Heat Biologics, Inc.

PART I—FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

HEAT BIOLOGICS, INC.
Consolidated Balance Sheets

	June 30, 2021	December 31, 2020
	(unaudited)	
Current Assets		
Cash and cash equivalents	$ 21,567,287	$ 10,931,890
Short-term investments	100,964,986	100,842,438
Accounts receivable	102,593	177,239
Prepaid expenses and other current assets	2,124,419	1,842,620
Total Current Assets	124,759,285	113,794,187
Property and Equipment, net	4,146,111	676,262
Other Assets		
In-process R&D	5,866,000	5,866,000
Goodwill	1,452,338	1,452,338
Grant receivable	368,465	—
Operating lease right-of-use asset	1,857,309	2,035,882
Finance lease right-of-use asset	187,744	247,194
Deposits	152,267	122,779
Total Other Assets	9,884,123	9,724,193
Total Assets	$ 138,789,519	$ 124,194,642
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts payable	$ 1,180,965	$ 1,051,764
Deferred revenue, current portion	—	603,717
Operating lease liability, current portion	293,226	278,753
Finance lease liability, current portion	111,411	108,127
Accrued expenses and other liabilities	1,766,311	1,614,534
Total Current Liabilities	3,351,913	3,656,895
Long Term Liabilities		
Other long-term liabilities	48,949	36,243
Derivative warrant liability	37,802	33,779
Deferred tax liability	361,911	361,911
Deferred revenue, net of current portion	237,500	237,500
Operating lease liability, net of current portion	1,151,886	1,301,636
Financing lease liability, net of current portion	103,700	160,240
Contingent consideration, net of current portion	2,336,626	2,250,844
Contingent consideration, related party - net of current portion	686,889	661,671
Total Liabilities	8,317,176	8,700,719
Commitments and Contingencies		
Stockholders' Equity		
Common stock, $.0002 par value; 250,000,000 and 250,000,000 shares authorized, 25,137,502 and 22,592,500 shares issued and outstanding at June 30, 2021 and December 31, 2020, respectively	5,027	4,519
Additional paid-in capital	276,225,048	247,048,349
Accumulated deficit	(144,722,860)	(130,647,485)
Accumulated other comprehensive loss	(121,127)	(166,056)
Total Stockholders' Equity - Heat Biologics, Inc.	131,386,088	116,239,327
Non-Controlling Interest	(913,745)	(745,404)
Total Stockholders' Equity	130,472,343	115,493,923
Total Liabilities and Stockholders' Equity	$ 138,789,519	$ 124,194,642

See Notes to Consolidated Financial Statements

HEAT BIOLOGICS, INC.
Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue:				
Grant and contract revenue	$ 459,494	$ 593,165	$ 998,139	$ 1,495,045
Operating expenses:				
Research and development	4,216,294	2,790,797	7,622,542	5,573,303
General and administrative	2,853,265	1,801,674	7,620,910	5,072,222
Change in fair value of contingent consideration	105,000	843,000	111,000	816,000
Total operating expenses	7,174,559	5,435,471	15,354,452	11,461,525
Loss from operations	(6,715,065)	(4,842,306)	(14,356,313)	(9,966,480)
Change in fair value of warrant liability	4,679	(24,363)	(4,023)	(1,002,073)
Investor relations expense	—	—	—	(66,767)
Interest income	176,798	56,080	371,963	108,790
Other (expense) income, net	(86,988)	273,771	(255,343)	16,292
Total non-operating income (loss)	94,489	305,488	112,597	(943,758)
Net loss before income taxes	(6,620,576)	(4,536,818)	(14,243,716)	(10,910,238)
Income tax expense	—	—	—	—
Net loss	(6,620,576)	(4,536,818)	(14,243,716)	(10,910,238)
Net loss - non-controlling interest	(77,379)	(82,388)	(168,341)	(163,702)
Net loss attributable to Heat Biologics, Inc.	$ (6,543,197)	$ (4,454,430)	$ (14,075,375)	$ (10,746,536)
Net loss per share, basic and diluted	$ (0.26)	$ (0.35)	$ (0.57)	$ (1.04)
Weighted-average common shares outstanding, basic and diluted	25,137,466	12,561,549	24,671,281	10,372,352
Comprehensive loss:				
Net loss	$ (6,620,576)	$ (4,536,818)	$ (14,243,716)	$ (10,910,238)
Unrealized gain (loss) on foreign currency translation	26,661	(179,510)	44,929	39,294
Total comprehensive loss	(6,593,915)	(4,716,328)	(14,198,787)	(10,870,944)
Comprehensive loss attributable to non-controlling interest	(77,379)	(82,388)	(168,341)	(163,702)
Comprehensive loss - Heat Biologics, Inc.	$ (6,516,536)	$ (4,633,940)	$ (14,030,446)	$ (10,707,242)

See Notes to Consolidated Financial Statements

HEAT BIOLOGICS INC.
Consolidated Statements of Stockholders' Equity
(Unaudited)

	Three Months Ended June 30, 2021					
	Common Stock	APIC	Accumulated Deficit	Accumulated Other Comprehensive (Loss) Income	Non-Controlling Interest	Total Stockholders' Equity
Balance at March 31, 2021	$ 5,027	$ 275,618,780	$ (138,179,663)	$ (147,788)	$ (836,366)	$ 136,459,990
Stock-based compensation	—	606,268	—	—	—	606,268
Other comprehensive income	—	—	—	26,661	—	26,661
Net loss	—	—	(6,543,197)	—	(77,379)	(6,620,576)
Balance at June 30, 2021	**$ 5,027**	**$ 276,225,048**	**$ (144,722,860)**	**$ (121,127)**	**$ (913,745)**	**$ 130,472,343**

	Six Months Ended June 30, 2021					
	Common Stock	APIC	Accumulated Deficit	Accumulated Other Comprehensive (Loss) Income	Non-Controlling Interest	Total Stockholders' Equity
Balance at December 31, 2020	$ 4,519	$ 247,048,349	$ (130,647,485)	$ (166,056)	$ (745,404)	$ 115,493,923
Issued under ATM, net of issuance costs	420	26,303,862	—	—	—	26,304,282
Issuance of common stock from vesting of restricted stock awards	82	(82)	—	—	—	—
Stock issuance costs	—	(658,184)	—	—	—	(658,184)
Stock-based compensation	—	3,503,848	—	—	—	3,503,848
Issuance of restricted stock	3	(3)	—	—	—	—
Exercise of options	6	27,255	—	—	—	27,261
Cancellation and payout of fractional shares	(3)	3	—	—	—	—
Other comprehensive income	—	—	—	44,929	—	44,929
Net loss	—	—	(14,075,375)	—	(168,341)	(14,243,716)
Balance at June 30, 2021	**$ 5,027**	**$ 276,225,048**	**$ (144,722,860)**	**$ (121,127)**	**$ (913,745)**	**$ 130,472,343**

HEAT BIOLOGICS INC.
Consolidated Statements of Stockholders' Equity
(Unaudited)

	Three Months Ended June 30, 2020					
	Common Stock	APIC	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Non-Controlling Interest	Total Stockholders' Equity
Balance at March 31, 2020	$ 2,232	$ 137,705,948	$ (110,889,854)	$ 207,554	$ (495,066)	$ 26,530,814
Issued under ATM, net of issuance costs	911	25,569,507	—	—	—	25,570,418
Stock issuance costs	—	(639,826)	—	—	—	(639,826)
Stock-based compensation	—	373,008	—	—	—	373,008
Exercise of warrants	1	17,783	—	—	—	17,784
Other Comprehensive loss	—	—	—	(179,510)	—	(179,510)
Net loss	—	—	(4,454,430)	—	(82,388)	(4,536,818)
Balance at June 30, 2020	**$ 3,144**	**$ 163,026,420**	**$ (115,344,284)**	**$ 28,044**	**$ (577,454)**	**$ 47,135,870**

	Six Months Ended June 30, 2020					
	Common Stock	APIC	Accumulated Deficit	Accumulated Other Comprehensive (Loss) Income	Non-Controlling Interest	Total Stockholders' Equity
Balance at December 31, 2019	$ 965	$ 118,179,635	$ (104,597,748)	$ (11,250)	$ (413,752)	$ 13,157,850
January 2020 investment offering, net of underwriters discounts	571	4,105,577	—	—	—	4,106,148
Issued under ATM, net of issuance costs	1,282	36,997,371	—	—	—	36,998,653
Issuance of common stock from vesting of restricted stock awards	47	(47)	—	—	—	—
Stock issuance costs	—	(1,092,760)	—	—	—	(1,092,760)
Stock-based compensation	—	1,321,200	—	—	—	1,321,200
Exercise of warrants	215	2,742,178	—	—	—	2,742,393
Exchange of warrants	64	773,266	—	—	—	773,330
Other comprehensive income	—	—	—	39,294	—	39,294
Net loss	—	—	(10,746,536)	—	(163,702)	(10,910,238)
Balance at June 30, 2020	**$ 3,144**	**$ 163,026,420**	**$ (115,344,284)**	**$ 28,044**	**$ (577,454)**	**$ 47,135,870**

See Notes to Consolidated Financial Statements

HEAT BIOLOGICS, INC.
Consolidated Statements of Cash Flows
(Unaudited)

	For the Six Months Ended June 30,	
	2021	**2020**
Cash Flows from Operating Activities		
Net loss	$ (14,243,716)	$ (10,910,238)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	237,160	153,994
Noncash lease expense	43,295	48,259
Noncash interest expense	7,087	9,316
Noncash investor relations expense	—	66,767
Stock-based compensation	3,503,848	1,321,200
Change in fair value of common stock warrants	4,023	1,002,073
Change in fair value of contingent consideration	111,000	816,000
Unrealized loss (gain) on investments	202,384	(61,013)
Increase (decrease) in cash arising from changes in assets and liabilities:		
Accounts receivable	74,159	7,903
Grant receivable	(368,465)	—
Prepaid expenses and other current assets	(282,654)	(174,274)
Accounts payable	129,493	(719,787)
Deferred revenue	(603,717)	(1,494,395)
Accrued expenses and other liabilities	200,883	(435,338)
Other long-term liabilities	12,706	22,847
Deposits	(29,487)	271,732
Net Cash Used in Operating Activities	(11,002,001)	(10,074,954)
Cash Flows from Investing Activities		
Purchase of short-term investments	(61,202,605)	(24,337,099)
Sale of short-term investments	60,877,673	3,799,995
Purchase of property and equipment	(3,647,559)	(211,401)
Proceeds from disposal of property and equipment	—	2,168
Net Cash Used in Investing Activities	(3,972,491)	(20,746,337)
Cash Flows from Financing Activities		
Proceeds from public offering of common stock and warrants, net of issuance costs	—	6,600,970
Proceeds from the issuance of common stock, net of underwriting discounts and commissions	26,304,282	36,998,653
Proceeds from exercise of stock options	27,261	—
Stock issuance costs	(658,184)	(1,092,760)
Proceeds from PPP loan	—	702,000
Repayment of PPP loan	—	(702,000)
Repayments on principal of finance lease	(60,342)	(54,969)
Net Cash Provided by Financing Activities	25,613,017	42,451,894
Effect of exchange rate changes on cash and cash equivalents	(3,128)	(2,249)
Net Change in Cash and Cash Equivalents	10,635,397	11,628,354
Cash and Cash Equivalents – Beginning of Period	10,931,890	9,039,887
Cash and Cash Equivalents – End of Period	$ 21,567,287	$ 20,668,241
Supplemental Disclosure for Cash Flow Information:		
Finance lease right-of-use assets obtained with lease liabilities	$ —	$ 173,822
Supplemental disclosure of non-cash investing and financing activities:		
Allocation of proceeds from public offering to warrant liabilities	$ —	$ 2,494,823
Cashless exercise of warrants classified as liabilities	$ —	$ 2,742,393
Cashless exchange of warrants classified as liabilities	$ —	$ 773,330

See Notes to Consolidated Financial Statements

1. Basis of Presentation and Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial reporting. Certain information or footnote disclosures normally included in the annual financial statements prepared in accordance with U.S. GAAP have been condensed, or omitted, pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC"). In the opinion of the Company's management, these financial statements include all normal and recurring adjustments necessary for the fair statement of the results for the interim periods presented. The results for the six months ended June 30, 2021 are not necessarily indicative of the results that may be expected for any other interim period or for the fiscal year ending December 31, 2021.

The consolidated financial statements as of and for the three and six months ended June 30, 2021 and 2020 are unaudited. The balance sheet as of December 31, 2020 is derived from the audited consolidated financial statements as of that date. These financial statements should be read in conjunction with the audited consolidated financial statements and related notes, together with Management's Discussion and Analysis of Financial Condition and Results of Operations, contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 25, 2021 (the "2020 Annual Report").

The accompanying unaudited consolidated financial statements as of and for the three and six months ended June 30, 2021 and 2020 include the accounts of Heat Biologics, Inc. ("the Company"), and its subsidiaries, Pelican Therapeutics, Inc. ("Pelican"), Heat Biologics I, Inc. ("Heat I"), Heat Biologics III, Inc. ("Heat III"), Heat Biologics IV, Inc. ("Heat IV"), Heat Biologics GmbH, Heat Biologics Australia Pty Ltd., Zolovax, Inc., Skunkworx Bio, Inc. (formerly known as Delphi Therapeutics, Inc.), Scorpion Biological Services, Inc. (formerly Scorpion Biosciences, Inc), and Abacus Biotech, Inc. The functional currency of the entities located outside the United States of America (the foreign entities) is the applicable local currency of the foreign entities. Assets and liabilities of the foreign entities are translated at period-end exchange rates. Statement of operations accounts are translated at the average exchange rate during the period. The effects of foreign currency translation adjustments are included in other comprehensive loss, which is a component of accumulated other comprehensive loss in stockholders' equity. All significant intercompany accounts and transactions have been eliminated in consolidation. At June 30, 2021 and December 31, 2020, Heat held 85% controlling interest in Pelican. Heat accounts for its less than 100% interest in accordance with U.S. GAAP. Accordingly, the Company presents non-controlling interest as a component of stockholders' equity on its consolidated balance sheets and reports non-controlling interest net loss under the heading "net loss – non-controlling interest" on its consolidated statements of operations and comprehensive loss.

On December 11, 2020, we effected a one-for-seven- reverse stock split. All per share numbers reflect the one-for seven reverse stock split.

Liquidity and Capital Resources

The Company has an accumulated deficit of approximately $144.7 million as of June 30, 2021 and a net loss of approximately $6.6 million and $14.2 million for the three and six months ended June 30, 2021 and has not generated significant revenue or positive cash flows from operations. The Company expects to incur significant expenses and continued losses from operations for the foreseeable future. The Company expects its expenses to increase in connection with its ongoing activities, particularly as the Company continues its research and development and advances its clinical trials of, and seeks marketing approval for, its product candidates. In addition, if the Company obtains marketing approval for any of its product candidates, the Company expects to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Furthermore, any new business ventures that the Company may engage in are likely to require commitments of capital. Accordingly, the Company will in the future need to obtain substantial additional funding in connection with its planned operations. Adequate additional financing may not be available to the Company on acceptable terms, or at all. If the Company is unable to raise capital when needed or on attractive terms, it would be forced to delay, reduce or eliminate its research and development programs or any future commercialization efforts. To meet its capital needs, the Company intends to continue to consider multiple alternatives, including, but not

limited to, additional equity financings such as sales of its common stock under at-the-market offerings, if available, debt financings, partnerships, collaborations and other funding transactions. As of June 30, 2021, the Company had approximately $122.5 million in cash and cash equivalents and short-term investments, which it believes is sufficient to fund its operations for at least one year from the date these consolidated financial statements were issued. This is based on the Company's current estimates, and the Company could use its available capital resources sooner than it currently expects. The Company is continually evaluating various cost-saving measures considering its cash requirements in order to focus resources on its product candidates. The Company will need to generate significant revenues to achieve profitability, and it may never do so.

With the global spread of the ongoing novel coronavirus ("COVID-19") pandemic, the Company has implemented business continuity plans designed to address and mitigate the impact of the COVID-19 pandemic on its employees and business. While the Company is experiencing limited financial impacts at this time, given the global economic slowdown, the overall disruption of global healthcare systems and the other risks and uncertainties associated with the pandemic could have a material adverse effect on our business, financial condition, results of operations and growth prospects. In addition, to the extent the ongoing COVID-19 pandemic adversely affects the Company's business and results of operations, it may also have the effect of heightening many of the other risks and uncertainties which the Company faces.

Risk and Uncertainties

The Company's future results of operations involve a number of risks and uncertainties. Factors that could affect the Company's future operating results and cause actual results to vary materially from expectations include, but are not limited to, uncertainty of results of clinical trials and reaching milestones, uncertainty of regulatory approval of the Company's potential drug candidates or its manufacturing facility, uncertainty of market acceptance of the Company's products or manufacturing capability or success of new business ventures, competition from substitute products and larger companies, securing and protecting proprietary technology, strategic relationships and dependence on key individuals and sole source suppliers.

In March 2020, the World Health Organization declared COVID-19 a global pandemic. This contagious disease outbreak, which has continued to spread, and any related adverse public health developments, has adversely affected workforces, economies, and financial markets globally, potentially leading to an economic downturn. It has also disrupted the normal operations of many businesses. The extent to which the COVID-19 pandemic impacts the Company's business, the clinical development of the Company's products, the business of the Company's suppliers and other commercial partners, the Company's corporate development objectives and the value of and market for the Company's common stock, will depend on future developments that are highly uncertain and cannot be predicted with confidence at this time, such as the ultimate duration of the pandemic, travel restrictions, quarantines, social distancing and business closure requirements in the United States, Europe and other countries, and the effectiveness of actions taken globally to contain and treat the disease. The Company's in human phase 1 trial of HS-130 was subject to an approximate 8 week enrollment pause in April and May 2020 due to lack of personal protection equipment ("PPE") at a clinical site. The site ceased all non-critical/non-essential patient procedures until PPE supplies were available. Enrollment resumed at the end of the second quarter of 2020 and no delays in overall development milestones are expected for the development of HS-130.

The Company relies on third-party manufacturers to purchase from their third-party vendors the materials necessary to produce product candidates and manufacture product candidates for clinical studies. The Company also depends on third-party suppliers for key materials and services used in research and development, as well as manufacturing processes, and are subject to certain risks related to the loss of these third-party suppliers or their inability to supply adequate materials and services. The Company does not control the manufacturing processes of the contract development and manufacturing organizations, or CDMOs, with whom it contracts and is dependent on these third parties for the production of its therapeutic candidates in accordance with relevant regulations (such as current Good Manufacturing Practices, or cGMP, which includes, among other things, quality control, quality assurance and the maintenance of records and documentation.

Cash and Cash Equivalents

The Company considers all cash and other highly liquid investments with initial maturities from the date of purchase of three months or less to be cash and cash equivalents.

Derivative Financial Instruments

The Company has issued common stock warrants in connection with the execution of certain equity financings. The fair value of the warrants, which were deemed to be derivative instruments, was recorded as a derivative liability under the provisions of ASC Topic 815 Derivatives and Hedging ("ASC 815") because they are not considered indexed to the Company's own stock. Subsequently, the liability is adjusted to fair value as of the end of each reporting period and the changes in fair value of derivative liabilities are recorded in the consolidated statements of operations and comprehensive loss under the caption "Change in fair value of warrant liability." See Note 3 for additional information.

The fair value of the warrants, including the warrants issued in connection with the January 2020 common stock offering and recorded as liability, were determined using the Monte Carlo simulation model, deemed to be an appropriate model due to the terms of the warrants issued.

The fair value of warrants was affected by changes in inputs to the Monte Carlo simulation model including the Company's stock price, expected stock price volatility, the remaining term, and the risk-free interest rate. This model uses Level 3 inputs, including stock price volatility, in the fair value hierarchy established by ASC 820 Fair Value Measurement. At June 30, 2021, the fair value of such warrants was $37,802, which is classified as a long-term derivative warrant liability on the Company's consolidated balance sheets.

Short-term Investments

The Company's short-term investments are equity securities and are carried at their fair value based on quoted market prices. Realized and unrealized gains and losses on equity securities are included in net earnings in the period earned or incurred.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Estimates are used for, but not limited to, useful lives of fixed assets, contingent consideration, valuation of goodwill and in process research and development ("IPR&D"), income taxes, valuation of warrant liabilities, and stock-based compensation. Actual results may differ from those estimates.

Reclassifications

Certain prior year amounts have been reclassified to conform to the current year presentation in the consolidated financial statements and accompanying notes to the consolidated financial statements including the related party contingent consideration payable, which is now presented as a separate line item on the Company's consolidated balance sheets.

Segments

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. To date, the Company has viewed the operations and managed the business as one segment.

Business Combinations

The Company accounts for acquisitions using the acquisition method of accounting, which requires that all identifiable assets acquired, and liabilities assumed be recorded at their estimated fair values. The excess of the fair value of purchase consideration over the fair values of identifiable assets and liabilities is recorded as goodwill. When determining the fair values of assets acquired and liabilities assumed, management makes significant estimates and assumptions. Critical estimates in valuing certain intangible assets include but are not limited to future expected cash flows from acquired patented technology. Management's estimates of fair value are based upon assumptions believed to be reasonable, but are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates.

Goodwill and In-Process Research and Development

The Company classifies intangible assets into three categories: (1) intangible assets with definite lives subject to amortization, (2) intangible assets with indefinite lives not subject to amortization and (3) goodwill. The Company determines the useful lives of definite-lived intangible assets after considering specific facts and circumstances related to each intangible asset. Factors the Company considers when determining useful lives include the contractual term of any agreement related to the asset, the historical performance of the asset, and other economic facts; including competition and specific market conditions. Intangible assets that are deemed to have definite lives are amortized, primarily on a straight-line basis, over their estimated useful lives. Intangible assets that are deemed to have indefinite lives, including goodwill, are reviewed for impairment annually, or more frequently if events or changes in circumstances indicate that the asset might be impaired. The impairment test for indefinite-lived intangibles, other than goodwill, consists of a comparison of the fair value of the intangible asset with its carrying amount. If the carrying amount exceeds the fair value, an impairment charge is recognized in an amount equal to that excess. Indefinite-lived intangible assets, such as goodwill, are not amortized. The Company tests the carrying amounts of goodwill for recoverability on an annual basis or when events or changes in circumstances indicate evidence a potential impairment exists, using a fair value-based test. Pursuant to ASU 2017-04, the Company must record a goodwill impairment charge if a reporting unit's carrying value exceeds its fair value. No impairment existed at June 30, 2021.

In-process research and development, or IPR&D, assets are considered to be indefinite-lived until the completion or abandonment of the associated research and development projects. IPR&D assets represent the fair value assigned to technologies that the Company acquires, which at the time of acquisition have not reached technological feasibility and have no alternative future use. During the period that the assets are considered indefinite-lived, they are tested for impairment on an annual basis, or more frequently if the Company becomes aware of any events occurring or changes in circumstances that indicate that the fair value of the IPR&D assets are less than their carrying amounts. If and when development is complete, which generally occurs upon regulatory approval and the ability to commercialize products associated with the IPR&D assets, these assets are then deemed definite-lived and are amortized based on their estimated useful lives at that point in time. If development is terminated or abandoned, the Company may have a full or partial impairment charge related to the IPR&D assets, calculated as the excess of carrying value of the IPR&D assets over fair value.

Contingent Consideration

Consideration paid in a business combination may include potential future payments that are contingent upon the acquired business achieving certain milestones in the future ("contingent consideration"). Contingent consideration liabilities are measured at their estimated fair value as of the date of acquisition, with subsequent changes in fair value recorded in the consolidated statements of operations. The Company estimates the fair value of the contingent consideration as of the acquisition date using the estimated future cash outflows based on the probability of meeting future milestones. The milestone payments will be made upon the achievement of clinical and commercialization milestones as well as single low digit royalty payments and payments upon receipt of sublicensing income. Subsequent to the date of acquisition, the Company reassesses the actual consideration earned and the probability-weighted future earn-out payments at each balance sheet date. Any adjustment to the contingent consideration liability will be recorded in the consolidated statements of operations. Contingent consideration liabilities expected to be settled within 12 months after the balance sheet date are presented in current liabilities, with the non-current portion recorded under long term liabilities in the consolidated balance sheets.

Research and Development

Research and development includes costs associated with developmental products not yet approved by the FDA as well as costs associated with bringing developmental products into advanced phase clinical trials as incurred. These costs consist primarily of pre-manufacturing and manufacturing drug costs, clinical trial execution, investigator payments, license fees, salaries, stock-based compensation and related personnel costs. Other costs include fees paid to consultants and outside service providers related to the development of the Company's product candidates and other expenses relating to the design, development, and testing and enhancement of its product candidates.

Grants Receivable and Revenue Recognition

Effective January 1, 2019, the Company has adopted ASU No. 2018-08, *Not-For-Profit Entities (Topic 958): Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made.* The Company's primary source of revenue is grant revenue related to the CPRIT contract, which is being accounted for under ASC 958 as a conditional non-exchange contribution.

The CPRIT grant covers the periods from June 1, 2017 through November 30, 2021, for a total grant award of up to $15.2 million. CPRIT advances grant funds upon request by the Company consistent with the agreed upon amounts and schedules as provided in the contract. The first tranche of funding of $1.8 million was received in May 2017, and a second tranche of funding of $6.5 million was received in October 2017, and the third tranche of funding of $5.4 million was received in December 2019. The remaining $1.5 million will be awarded, on a reimbursement basis, after the Company has fulfilled every requirement of the grant and the grant has been approved to be finalized. Funds received are reflected in deferred revenue as a liability until revenue is earned. When grant funds are received after costs have been incurred, the Company records revenue and a corresponding grants receivable. Grant revenue is recognized when qualifying costs are incurred.

On January 7, 2020, the Company was awarded a grant of up to $224,713 from the NIH. The NIH grant provides funding for continued development of the Company's technologies for PTX-35. The grant funds will be made available by the NIH to the Company as allowable expenses are incurred. For the three and six months ended June 30, 2021, the Company incurred approximately $0.0 million and $0.03 million of allowable expenses under the NIH grant and recognized a corresponding amount of grant revenues.

Prepaid Expenses and Other Current Assets

The Company's prepaid expenses and other current assets consist primarily of the amount paid in advance for manufacturing activities, clinical trial support, equipment lease deposits and insurance.

Income Taxes

Income taxes are accounted for using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the carrying amounts of assets and liabilities and their respective tax bases, operating loss carryforwards, and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Deferred tax assets are reduced by a valuation allowance to the extent that utilization is not presently more likely than not.

Significant Accounting Policies

The significant accounting policies used in preparation of these interim financial statements are disclosed in the 2020 Annual Report and have not changed significantly since such filing.

Recently Issued Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses which requires financial assets measured at amortized cost basis to be presented at the net amount expected to be collected. This standard is effective for fiscal years beginning after December 15, 2022 and the Company is currently evaluating the expected impact of this standard but does not expect it to have a material impact on its consolidated financial statements upon adoption.

In December 2019, the FASB issued ASU 2019-12, Simplifying the Accounting for Income Taxes (ASU 2019-12), which simplifies the accounting for income taxes by removing certain exceptions to the general principles of Topic 740, Income Taxes, and also improves consistency of application by clarifying and amending existing guidance. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, with early adoption permitted. Adoption of this new standard did not have a material impact on the Company.

In January 2020, the FASB issued ASU 2020-01, Investments-Equity Securities (Topic 321), Investments-Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)-Clarifying the Interactions between Topic 321, Topic 323, and Topic 815 (a consensus of the Emerging Issues Task Force), which addresses the accounting for the transition into and out of the equity method and measuring certain purchased options and forward contracts to acquire investments. ASU 2020-01 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. Adoption of this new standard did not have a material impact on the Company.

In August 2020, the FASB issued ASU No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity. This ASU simplifies the accounting for convertible instruments. This ASU also requires entities to use the if-converted method for all convertible instruments in calculating diluted earnings-per-share. The ASU is effective for annual periods beginning after December 15, 2023 with early adoption permitted. We are currently evaluating the impact this standard will have on our consolidated financial statements.

2. Acquisition of Pelican Therapeutics

In 2017, the Company consummated the acquisition of 80% of the outstanding equity of Pelican, a related party, and Pelican became a majority owned subsidiary of the Company. During the quarter ended March 31, 2018, cash consideration of approximately $300,000 was distributed to the participating Pelican stockholders and the remainder of approximately $200,000 for certain Pelican liabilities not satisfied was recognized as other income in the statements of operations and comprehensive loss for the period. In October 2018, the Company entered into an agreement with the University of Miami ("UM") whereby UM exchanged its shares of stock in the Company's subsidiaries, Heat I, Inc. and Pelican. The stock exchange resulted in the Company increasing its controlling ownership in Pelican from 80% to 85%.

Under the Pelican stock acquisition agreement, the Company is also obligated to make future payments based on the achievement of certain clinical and commercialization milestones, as well as low single digit royalty payments and payments upon receipt of sublicensing income. The fair value of these future milestone payments is reflected in the contingent consideration account under current liabilities with the non-current portion under long term liabilities on the balance sheet. The estimated fair value of the contingent consideration was determined using a probability-weighted income approach. The Company estimates the fair value of the contingent consideration on a quarterly basis. At the time of the Pelican acquisition, the Company's CEO and certain affiliated entities as well as two of the Company's directors and certain affiliated entities directly or indirectly owned shares of Pelican common stock purchased by the Company. As a result, approximately 22.7% of any such milestone payments will be paid to certain directors of the Company which is presented separately on the balance sheet as contingent consideration, related party - net of current portion. On June 22, 2020, the Company achieved the first milestone when it dosed the first patient in the first Phase 1 clinical trial of PTX-35.

Goodwill was calculated as the difference between the acquisition-date fair value of the consideration transferred and the fair values of the assets acquired and liabilities assumed. The goodwill resulting from this acquisition related largely to synergies expected from combining the operations. The goodwill is not deductible for income tax purposes. In-process research and development assets are treated as indefinite-lived until the completion or abandonment of the associated research and development ("R&D") program, at which time the appropriate useful lives will be determined. The Company calculated the fair value of the non-controlling interest acquired in the acquisition as 20% of the equity interest of Pelican, adjusted for a minority interest discount.

As discussed in Note 10, in May 2016, Pelican was awarded a $15.2 million CPRIT Grant from CPRIT for development of Pelican's lead product candidate, PTX-35. The CPRIT Grant supports Pelican in developing PTX-35 through its current Phase 1 clinical trial designed to evaluate PTX-35 in combination with other immunotherapies.

3. Fair Value of Financial Instruments

The carrying amount of certain of the Company's financial instruments, including cash and cash equivalents, accounts payable and accrued expenses and other payables approximate fair value due to their short maturities.

As a basis for determining the fair value of certain of the Company's financial instruments, the Company utilizes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level I – Observable inputs such as quoted prices in active markets for identical assets or liabilities.

Level II – Observable inputs, other than Level I prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level III – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

This hierarchy requires the Company to use observable market data, when available, and to minimize the use of unobservable inputs when determining fair value. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the entire fair value measurement requires management to make judgments and consider factors specific to the asset or liability. The Company's cash equivalents are classified within Level I of the fair value hierarchy.

As of June 30, 2021 and December 31, 2020, the fair values of cash, accounts payable, and accrued expenses approximated their carrying values because of the short-term nature of these assets or liabilities. The Company's short-term investments consist of Level I securities which are comprised of highly liquid money market funds. The estimated fair value of the short-term investments was based on quoted market prices. There were no transfers between fair value hierarchy levels during the quarters ended June 30, 2021 or 2020.

In January 2020, the Company issued warrants in connection with the public offering of common stock (the "January 2020 Warrants"). Pursuant to the terms of these warrants, the warrants were not considered indexed to the Company's own stock and therefore are required to be measured at fair value and reported as a liability in the consolidated balance sheets. Additionally, upon the closing of the January 2020 offering, 479,595 outstanding warrants were evaluated for whether they were modified for accounting purposes and it was determined that they were required to be classified as a liability. The fair value of the warrant liability is based on the Monte Carlo methodology. The Company is required to revalue the warrants at each reporting date with any changes in fair value recorded on our consolidated statement of operations and comprehensive loss. The valuation of the warrants is classified under Level 3 of the fair value hierarchy due to the need to use assumptions in the valuation that are both significant to the fair value measurement and unobservable. In order to calculate the fair value of the warrants, certain assumptions were made, including the selling price or fair market value of the underlying common stock, risk-free interest rate, volatility, and remaining life. Changes to the assumptions could cause significant adjustments to valuation. The Company estimated a volatility factor utilizing its own data. The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of the grant for treasury securities of similar maturity.

The following table presents quantitative information about the Black-Scholes inputs used in the valuation for the Company's fair value measurement of the warrant liability classified as Level 3:

	June 30, 2021	December 31, 2020
Current stock price	$ 6.73	$ 5.36
Estimated volatility of future stock price	130.30 %	141.28 %
Risk free interest rate	0.36 %	0.17 %
Contractual term	2.41 years	2.90 years

During the year ended December 31, 2020,470,238 warrants were exchanged for 319,756 shares of common stock. As of June 30, 2021, there were a total of 9,357 warrants outstanding that were reported as a liability on the consolidated balance sheet.

The fair value of financial instruments measured on a recurring basis is as follows:

	As of June 30, 2021			
Description	**Total**	**Level 1**	**Level 2**	**Level 3**
Assets:				
Short-term investments	$ 100,964,986	$ 100,964,986	—	—
Liabilities:				
Contingent consideration	$ 3,023,515	—	—	$ 3,023,515
Warrant liability	$ 37,802	—	—	$ 37,802

	As of December 31, 2020			
Description	**Total**	**Level 1**	**Level 2**	**Level 3**
Assets:				
Short-term investments	$ 100,842,438	$ 100,842,438	—	—
Liabilities:				
Contingent consideration	$ 2,912,515	—	—	$ 2,912,515
Warrant liability	$ 33,779	—	—	$ 33,779

The following table summarizes the change in fair value, as determined by Level 3 inputs, for all assets and liabilities using unobservable Level 3 inputs for the six months ended June 30, 2021:

	Contingent Consideration	**Warrant Liability**
Balance at December 31, 2020	$ 2,912,515	$ 33,779
Change in fair value	111,000	4,023
Balance at June 30, 2021	$ 3,023,515	$ 37,802

The change in the fair value of the contingent consideration for the six months ended June 30, 2021 was primarily due to the increase in the estimated probability of achieving the secondary milestone, a change in discount rate and the passage of time on the fair value measurement. The change in fair value of the warrant liability for the six months ended June 30, 2021 was primarily due to increases in the fair value of the underlying stock. Adjustments associated with the change in fair value of contingent consideration and warrant liability are included in the Company's consolidated statement of operations and comprehensive loss.

The following table presents quantitative information about the inputs and valuation methodologies used for the Company's fair value measurements of contingent consideration classified as Level 3 as of June 30, 2021:

	As of June 30, 2021		
	Valuation Methodology	**Significant Unobservable Input**	**Weighted Average (range, if applicable)**
Contingent Consideration	Probability weighted income approach	Milestone dates	2022-2031
		Discount rate	7.31
		Probability of occurrence	2.7% to 68%

The Company measures certain non-financial assets on a non-recurring basis, including goodwill and in-process R&D. This analysis requires significant judgments, including primarily the estimation of future development costs, the probability of success in various phases of its development programs, potential post-launch cash flows and a risk-adjusted weighted average cost of capital.

4. Short-Term Investments

Short-term investments consist of equity securities with a maturity of greater than three months when acquired. The Company holds its securities at fair value as of June 30, 2021 and December 31, 2020. Unrealized gains and losses on securities are reported in the statement of operations and comprehensive loss. Short-term investments at June 30, 2021 and December 31, 2020 consisted of mutual funds with fair values of $101.0 million and $100.8 million, respectively.

5. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following at:

	June 30, 2021	December 31, 2020
Prepaid manufacturing expense	$ 272,036	$ 316,411
Prepaid insurance	94,211	612,293
Prepaid preclinical and clinical expenses	1,535,651	690,543
Other prepaid expenses and current assets	222,521	223,373
	$ 2,124,419	$ 1,842,620

6. Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful lives, ranging generally from three to eight years. Construction-in-process primarily consists of equipment being built but not yet placed into service. Expenditures for maintenance and repairs are charged to expense as incurred.

Property and equipment consist of the following at:

	June 30, 2021	December 31, 2020
Lab equipment	$ 2,572,219	$ 1,607,238
Computers	85,071	71,058
Furniture and fixtures	66,106	64,523
Leasehold improvements	22,563	22,563
Construction-in-process	2,659,101	—
Total	5,405,060	1,765,382
Accumulated depreciation	(1,258,949)	(1,089,120)
Property and equipment, net	$ 4,146,111	$ 676,262

Depreciation expense was $105,632 and $177,710 for the three and six months ended June 30, 2021, respectively, and $56,670 and $99,242 for the three and six months ended June 30, 2020, respectively.

7. Goodwill and In-Process R&D

Goodwill of $2.2 million and in-process R&D of $5.9 million were recorded in connection with the acquisition of Pelican, as described in Note 2. The Company performs an annual impairment test at the reporting unit level as of April 1st of each fiscal year. No impairment was recorded during the quarters ended June 30, 2021 or 2020.

8. Accrued Expenses and Other Liabilities

Accrued expenses and other liabilities consist of the following:

	June 30, 2021	December 31, 2020
Accrued preclinical and clinical trial expenses	$ 873,042	$ 628,000
Accrued manufacturing expenses	167,915	175,089
Compensation and related benefits	190,053	209,600
Accrued franchise tax	100,000	172,500
Other expenses	435,301	429,345
	$ 1,766,311	$ 1,614,534

9. Stockholders' Equity

Underwritten Registered Offering

On January 21, 2020, the Company closed on a public offering consisting of2,857,142 shares of common stock together with warrants to purchase 1,428,571 shares of common stock. The gross proceeds to the Company from this offering were approximately $7,000,000, before deducting underwriting discounts, commissions, and other offering expenses.

The Company has accounted for the warrants as liabilities and recorded them at fair value in our consolidated balance sheets (see Note 3).

At-The-Market-Offering

From January 1, 2021 to June 30, 2021 the Company sold approximately2,106.027 shares of common stock under the Common Stock Sales Agreement, and the Amended and Restated Common Stock Sales Agreement, at an average price of approximately $ 12.18 per share, raising aggregate net proceeds of $25,646,099 after deducting a commission up to 3%.

Common Stock Warrants

As of June 30, 2021, the Company has outstanding warrants to purchase747,383 shares of common stock issuable at a weighted-average exercise price of $11.06 per share.

The following table summarizes the warrant activity of the Company's common stock warrants.

	Common Stock Warrants
Outstanding, December 31, 2020	758,939
Issued	31,000
Expired	(42,556)
Outstanding, June 30, 2021	747,383

Equity Compensation Plans

The Company maintains various equity compensation plans with substantially similar provisions under which it may award employees, directors and consultants incentive and non-qualified stock options, restricted stock, stock appreciation rights and other stock based awards with terms established by the Compensation Committee of the Board of Directors which has been appointed by the Board of Directors to administer the plans. As of June 30, 2021, there were 1,098,657 shares remaining available for grant under these plans.

Accounting for Stock-Based Compensation:

Stock Compensation Expense - For the three and six months ended June 30, 2021, the Company recorded $0.6 million and $3.5 million of stock-based compensation expense, respectively. For the three and six months ended June 30, 2020, the Company recorded $0.4 million and $1.3 million of stock-based compensation expense, respectively. No compensation expense of employees with stock awards was capitalized during the three and six months ended June 30, 2021 and 2020.

Stock Options - Under the Plan, the Company has issued stock options. A stock option grant gives the holder the right, but not the obligation to purchase a certain number of shares at a predetermined price for a specific period of time. The Company typically issues options that vest over four years in equal installments beginning on the first anniversary of the date of grant. Under the terms of the Plan, the contractual life of the option grants may not exceed ten years. During the six months ended June 30, 2021 and 2020, the Company issued options that expire ten years from the date of grant.

Fair Value Determination – The Company has used the Black-Scholes option pricing model to determine fair value of our stock option awards on the date of grant. The Company will reconsider the use of the Black-Scholes model if additional information becomes available in the future that indicates another model would be more appropriate or if grants issued in future periods have characteristics that cannot be reasonably estimated under this model.

The following weighted-average assumptions were used for option grants during the three and six months ended June 30, 2021 and 2020:

- ***Volatility*** – The Company used an average historical stock price volatility of its own data plus an analysis of reported data for a peer group of comparable companies that have issued stock options with substantially similar terms.

- ***Expected life of options*** – The expected term represents the period that the Company's stock option grants are expected to be outstanding. The Company elected to utilize the "simplified" method to estimate the expected term. Under this approach, the weighted-average expected life is presumed to be the average of the vesting term and the contractual term of the option.

- ***Risk-free interest rate*** – The rate is based on U.S. Treasury interest rates at the time of the grant whose term is consistent with the expected life of the stock options.

- ***Dividend yield*** – The expected dividend yield was considered to be0% in the option pricing formula since the Company had not paid any dividends and had no plan to do so in the future.

- ***Forfeitures*** – As required by ASC 718, the Company reviews recent forfeitures and stock compensation expense. The Company accounts for forfeitures as they occur.

The following table summarizes weighted-average assumptions used in our calculations of fair value for the six months ended June 30, 2021 and 2020:

	2021	2020
Dividend yield	— %	— %
Expected volatility	101.43 %	89.61 %
Risk-free interest rate	0.43 %	0.86 %
Expected lives (years)	5.5 years	5.9 years

Stock Option Activity **-** The weighted-average fair value of options granted during the six months ended June 30, 2021 and 2020, as determined under the Black-Scholes valuation model, was $4.36 and $2.94 per share, respectively.

The following is a summary of the stock option activity for the six months ended June 30, 2021:

	Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value	Weighted Average Remaining Contractual Life
Stock options outstanding at December 31, 2020	1,480,139	$ 11.05	$ 1,051,560	
Granted	329,901	5.67		
Exercised	(69,493)	6.57	$ 46,403	
Forfeited/Expired	(66,743)	11.46		
Stock options outstanding at June 30, 2021	1,673,804	$ 10.15	$ 1,271,169	8.8 Years
Stock options exercisable at June 30, 2021	1,044,221	$ 12.87	$ 481,213	8.5 Years

Unrecognized compensation expense related to unvested stock options was $2.4 million as of June 30, 2021, which is expected to be recognized over a weighted-average period of 1.5 years and will be adjusted for forfeitures as they occur.

Restricted Stock - Under the Plan, the Company has issued restricted stock. A restricted stock award is an issuance of shares that cannot be sold or transferred by the recipient until the vesting period lapses. The grant date fair value of the restricted stock is equal to the closing market price of our common stock on the date of grant.

The following is a summary of restricted stock award activity for the six months ended June 30, 2021:

	Shares	Weighted Average Fair Value
Restricted stock at December 31, 2020	239,928	$ 4.02
Granted	426,372	5.67
Vested	(406,426)	5.15
Cancelled	—	—
Restricted stock at June 30, 2021	259,874	$ 4.96

Restricted Stock Units **-** Under the Plan, the Company issued time-based RSUs. RSUs are not actual shares, but rather a right to receive shares in the future. The shares are not issued and the employee cannot sell or transfer shares prior to vesting and has no voting rights until the RSUs vest. The employees' time-based RSUs vest 25% on the award date and 25% each anniversary thereafter. The grant date fair value of the RSUs is equal to the closing market price of our common stock on the grant date. The Company recognizes the grant date fair value of RSUs of shares the Company expects to issue as compensation expense ratably over the requisite service period.

The following is a summary of stock unit activity for the six months ended June 30, 2021:

	Shares	Weighted Average Fair Value
RSUs at December 31, 2020	1,900	$ 26.60
Vested	(1,900)	26.60
Cancelled	—	—
RSUs at June 30, 2021	—	$ —

10. Grant Revenue

In June 2016, Pelican entered into a cancer research grant contract or Grant Contract with CPRIT, under which CPRIT awarded a grant not to exceed $15.2 million for use in developing cancer treatments by targeting a novel T cell costimulatory receptor (namely, TNFRSF25). The Grant Contract covers a period from June 1, 2016 through November 30, 2020, as amended through November 30, 2021. The first tranche of funding of $1.8 million was received in May 2017, and a second tranche of funding of $6.5 million was received in October 2017 and a third tranche of funding of $5.4 million was received in December 2019. The remaining $1.5 million will be awarded on a reimbursement basis after the Company has fulfilled every requirement of the grant and the grant has been approved to be finalized.

The grant is subject to customary CPRIT funding conditions including a matching funds requirement where Pelican will match $0.50 for every $1.00 from CPRIT. Consequently, Pelican was required to provide $7.6 million in matching funds over the life of the project. Upon commercialization of the product, the terms of the grant require Pelican to pay tiered royalties in the low to mid-single digit percentages. Such royalties reduce to less than one percent after a mid-single-digit multiple of the grant funds have been paid to CPRIT in royalties.

On January 7, 2020, the Company was awarded a grant of up to $224,713 from the NIH. The NIH grant provides funding for continued development of the Company's technologies for PTX-35. The grant funds will be made available by the NIH to the Company as allowable expenses are incurred.

Through June 30, 2021, $14.1 million of grant funding received to date has been recognized as revenue.

11. Net Loss Per Share

Basic net loss per common share is computed by dividing net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the periods. Fully diluted net loss per common share is computed using the weighted average number of common and dilutive common equivalent shares outstanding during the periods. Common equivalent shares consist of stock options and warrants that are computed using the treasury stock method.

For the quarters ended June 30, 2021 and 2020, all of the Company's common stock options, unvested restricted stock units and warrants are anti-dilutive and therefore have been excluded from the diluted calculation.

The following table reconciles net loss to net loss attributable to Heat Biologics, Inc.:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	2020	2021	2020
Net loss	$ (6,620,576)	$ (4,536,818)	$ (14,243,716)	$ (10,910,238)
Net loss - Non-controlling interest	(77,379)	(82,388)	(168,341)	(163,702)
Net loss attributable to Heat Biologics, Inc.	$ (6,543,197)	$ (4,454,430)	$ (14,075,375)	$ (10,746,536)
Weighted-average common shares outstanding, basic and diluted	25,137,466	12,561,549	24,671,281	10,372,352
Net loss per share, basic and diluted	$ (0.26)	$ (0.35)	$ (0.57)	$ (1.04)

The following potentially dilutive securities were excluded from the calculation of diluted net loss per share in the three and six months ended June 30, 2021 and 2020 due to their anti-dilutive effect:

	2021	2020
Outstanding stock options	1,673,804	798,842
Restricted stock subject to forfeiture and restricted stock units	259,874	289,321
Outstanding common stock warrants	747,383	820,938

12. Income Tax

Income taxes are accounted for using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases, operating loss carryforwards, and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. As of June 30, 2021, $1.0 million of the deferred tax asset arising from the generation of 2018 net operating losses has been utilized to offset a portion of the previously recorded deferred tax liability associated with indefinite lived R&D in process costs. Specifically, the prior & current year net operating losses gave rise to an indefinite-lived deferred tax asset which provided sufficient support to offset a portion of the Company's indefinite-lived deferred tax liability.

In accordance with FASB ASC 740, Accounting for Income Taxes, the Company reflects in the accompanying unaudited condensed consolidated financial statements the benefit of positions taken in a previously filed tax return or expected to be taken in a future tax return only when it is considered 'more-likely-than-not' that the position taken will be sustained by a taxing authority. As of June 30, 2021, and December 31, 2020, the Company had no unrecognized income tax benefits and correspondingly there is no impact on the Company's effective income tax rate associated with these items. The Company's policy for recording interest and penalties relating to uncertain income tax positions is to record them as a component of income tax expense in the accompanying statements of operations and comprehensive loss. As of June 30, 2021, and December 31, 2020, the Company had no such accruals.

13. Leases

Effective January 1, 2019, the Company adopted ASC 842 using the optional transition method, applying no practical expedients. In accordance with the optional transition method, the Company did not recast the prior period consolidated financial statements. The lease term is the noncancelable period of the lease. There are no termination provisions or renewal periods reasonably certain of exercise or options controlled by the lessor.

The Company conducts its operations from leased facilities in Morrisville, North Carolina, San Antonio, Texas and New Brunswick, New Jersey, the leases for which will expire in 2027, 2023 and 2022, respectively. The leases are for general office space and lab space and require the Company to pay property taxes, insurance, common area expenses and maintenance costs.

In June 2021, the Company entered into a lease agreement with Durham KTP Tech 7, LLC, to lease a 15,996 square foot facility in Morrisville, North Carolina to expand its research and development activities. The lease has a term of eight years following the commencement date and provides the Company the option to extend the lease term for one five year term. It is subject to fixed rate escalation increases and also provides up to $2.4 million for tenant improvements. As the lease had not commenced as of June 30, 2021, the Company has not recorded an operating lease ROU asset or lease liability for this lease in the accompanying condensed consolidated balance sheets. The initial estimate of the minimum amount of undiscounted lease payments due under this lease is $4.7 million. Further, the tabular disclosure of minimum lease payments below does not include payments due under this lease.

Total cash paid for operating leases during the three and six months ended June 30, 2021 was $0.09 million and $0.18 million respectively, and is included within cash flows from operating activities within the consolidated statement of cash flows.

The Company leases furniture and specialized lab equipment under finance leases. The related right-of-use assets are amortized on a straight-line basis over the lesser of the lease term or the estimated useful life of the asset. The effective interest rate is 6.17%.

The Company's lease cost is reflected in the accompanying statements of operations and comprehensive loss as follows:

	For the Three Months Ended June 30, 2021	For the Six Months Ended June 30, 2021
Operating lease cost	$ 113,555	$ 227,111
Finance lease cost		
Amortization of lease assets	29,725	59,450
Interest on lease liabilities	3,345	7,087
Total finance lease cost	$ 33,070	$ 66,537

The weighted average remaining lease term and incremental borrowing rate as of June 30, 2021 were as follows:

Weighted average remaining lease term	
Operating leases	5.7 years
Finance leases	1.8 years
Weighted average discount rate	
Operating leases	6.47 %
Finance leases	6.00 %

Maturities of operating and finance lease liabilities as of June 30, 2021 were as follows:

	Operating Leases	Finance Leases	Total
2021 (excluding the six months ended June 30, 2021)	$ 186,181	$ 60,342	$ 246,523
2022	360,839	155,694	516,533
2023	244,973	10,284	255,257
2024	231,503	-	231,503
2025	238,452	-	238,452
2026	245,607	-	245,607
Thereafter	209,214	-	209,214
Total minimum lease payments	1,716,769	226,320	1,943,089
Less: imputed interest	(271,657)	(11,209)	(282,866)
Present value of lease liabilities	$ 1,445,112	$ 215,111	$ 1,660,223

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and related notes included in this Quarterly Report on Form 10-Q. The following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results and the timing of certain events could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including those discussed below and elsewhere in this Quarterly Report. This discussion should be read in conjunction with the accompanying unaudited consolidated financial statements and the audited consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the Securities and Exchange Commission on March 25, 2021 (the "2020 Annual Report"). This discussion may contain forward-looking statements that involve risks and uncertainties. See "Forward-Looking Statements." You should review the disclosure under the heading "Risk Factors" in this Quarterly Report on Form 10-Q and the 2020 Annual Report for a discussion of important factors that could cause our actual results to differ materially from those anticipated in these forward-looking statements.

OVERVIEW

We are a biopharmaceutical company primarily engaged in the development of immune therapies and vaccines. Our allogeneic vaccine platform is based on secreted gp96 and designed to activate the immune system. This platform has broad applications in cancer and infectious disease. Our platform leverages a natural molecular warning system that presents antigens to the immune system. HS-110 (viagenpumatucel-L) is our first allogeneic ("off-the-shelf") cell line biologic product candidate in a series of proprietary immunotherapies designed to stimulate a patient's T cells to fight cancer. HS-130 is another allogeneic cell line engineered to express the extracellular domain of OX40 ligand as a fusion protein (OX40L-Fc). This biologic is a key costimulator of T cells, with potential to augment antigen-specific CD4+ and CD8+ T cell responses. We have initiated development of a new COVID-19 vaccine program under our Zolovax, Inc. subsidiary that utilizes our gp96 platform to chaperone SARS-CoV-2 antigens, eliciting an immune response against the spike glycoprotein. Our subsidiary Pelican Therapeutics, Inc. ("Pelican"), is developing PTX-35, a novel T cell co-stimulator agonist antibody targeting TNFRSF25.

These programs are designed to harness innate and/or antigen specific immune activation and tolerance mechanisms to reprogram immunity and provide a long-term, durable clinical effect. We have completed the following clinical milestones. We have completed patient enrollment for our HS-110 Phase 2 non-small cell lung cancer (NSCLC) clinical trial, enrolled and dosed fifteen patients in our HS-130 Phase 1 clinical trial and dosed twelve patients in our PTX-35 Phase 1a clinical trial.

We are also providing pre-clinical, CMC development, and administrative support for these programs; while constantly focusing on protecting and expanding our intellectual property in areas of strategic interest. As we advance our clinical programs, we are in close contact with our CROs and clinical sites to monitor the impact of COVID-19 on our studies, current timelines, and costs.

In an effort to decrease our dependence upon third party manufacturers and enhance efficiency, we are designing and building a cGMP facility in San Antonio, Texas for the development of bioanalytics, process development and manufacturing activities. We also expect to offer fee-for-service contracting to external customers after completion of the build out.

Our Clinical Programs

We completed patient enrollment in our HS-110 Phase 2 non-small cell lung cancer (NSCLC) clinical trial and continue to enroll patients in our HS-130 Phase 1 clinical trial that combines HS-110 with HS-130 to drive immune surveillance. Our PTX-35 safety and dose escalation Phase 1 clinical trial also continues to enroll patients. We are also providing pre-clinical, CMC development, and administrative support for these efforts; while constantly focusing on protecting and expanding our intellectual property in areas of strategic interest. We currently do not have any FDA approved products or sales and we have not generated any significant revenue since our inception nor revenue from product sales. We expect to

continue to incur significant expenses and increased operating losses over the next several years. We anticipate that our expenses will increase substantially in the following areas:

- ongoing clinical trials of our product candidates;
- maintaining, expanding, and protecting our intellectual property portfolio;
- gaining regulatory approvals for our product pipeline;
- continued research and development efforts;
- increased operational, financial, management information systems, and personnel - including personnel to support our product development and commercialization efforts; and
- expenses incurred with operating as a public company.

About our gp96 Platform

Our gp96 platform is designed to activate and expand tumor antigen specific “killer” T cells to destroy a patient’s cancer. By turning immunologically “COLD tumors HOT,” we believe our platform can become an essential component of the immuno-oncology regimen to enhance the effectiveness and durability of checkpoint inhibitors and other cancer therapies, thereby improving outcomes for those patients less likely to benefit from checkpoint inhibitors alone.

We believe this is a highly differentiated approach as our platform delivers a broad range of tumor antigens that are previously unrecognized by the patient’s immune system. Tumor antigens are processed and chaperoned by a powerful and naturally occurring immune adjuvant, gp96, to activate an anti-cancer immune response. Our cancer vaccine therapeutics are replication incompetent, “off-the-shelf”, allogenic cell-based therapies that are locally administered into the skin. The treatment primes innate immune recognition and activates T cells to seek and destroy the cancer cells throughout the body. These gp96 agents can be administered with a variety of immuno-modulators to enhance a patient’s immune response through T cell activation.

Unlike many other “patient specific” or autologous immunotherapy approaches, our drug biotherapeutics are fully allogeneic, “off-the-shelf” products. This provides a means to quickly administer the biotherapeutic without the need to extract and expand blood or tumor tissue from individual patients or create individualized treatment based on the patient’s haplotype. Our gp96 product candidates are produced from allogeneic cell lines expressing tumor-specific proteins common among cancers. Because each patient receives the same treatment, we believe that our immunotherapy approach offers superior speed to initiation, logistics, manufacturing efficiencies, and importantly, cost benefits, compared to “personalized” precision medicine approaches.

Our gp96 platform also delivers antigen-driven T cell activation and specific co-stimulation in a single product. The vaccine delivers both the gp96 heat shock protein and a T cell co-stimulatory fusion protein (OX40L) as a single therapeutic, without the need for multiple, independent biologic products. This dual approach has several potential advantages including: (a) enhanced activation of antigen-specific CD8+ T cells; (b) boosting the number of antigen-specific CD8+ and CD4+ T cells compared to OX40L alone; (c) stimulation of T cell memory function to remain effective after treatment, even in the event of cancer remission; (d) demonstration of less toxicity, as the source of cancer associated antigens and co-stimulator are supplied at the same time locally in the draining lymph nodes, which drives targeted, cancer specific immunity towards the tumor rather than throughout the body; and (e) simplification of combination cancer immunotherapy versus systemic co-stimulation with conventional monoclonal antibodies (mAbs).

An Allogenic Cell-Based Approach to Activating the Immune System

Our gp96 platform is an allogenic cell-based, T cell-stimulating platform that functions as an immune activator to stimulate and expand T effector cells. The key component of this innovative immunotherapy platform is the dual functionality of the gp96 heat shock protein.

As a molecular chaperone, gp96 is typically found within the cell's endoplasmic reticulum and facilitates the folding of newly synthesized proteins for functionalized tasks. When a cell abnormally dies through necrosis or infection, gp96 is naturally released into the surrounding microenvironment. This event becomes a Danger Associated Molecular Protein, or "DAMP", a molecular warning signal for localized innate activation of the immune system. In this context, gp96 serves as a potent adjuvant, or immune stimulator, via Toll-Like Receptor 4/2 (TLR4 and TLR2) signaling which serves to activate professional antigen presenting cells (APCs), such as dendritic cells that upregulate T cell costimulatory ligands, major histocompatibility (MHC) molecules and immune activating cytokines. It is among the most powerful adjuvants found in the body and uniquely shows exclusive specificity to CD8+ "killer" T cells through cross-presentation of the gp96-chaperoned tumor associated peptide antigens directly to MHC class I molecules for direct activation and expansion of CD8+ T cells. Thus, gp96 plays a central role driving mechanism of action for our T cell activating platform immuno-therapies; mimicking necrotic cell death and activating a powerful, tumor antigen-specific T cell immune response to attack the patient's cancer cells.

About COVID-19 Program

Besides its utility in oncology, our gp96 platform has been shown to activate the human immune system to combat infectious diseases. Our collaborators have laid a solid foundation by engineering different pathogenic antigens into our platform. Previous preclinical studies using our gp96 platform includes SIV/HIV, Malaria and Zika. We initiated a COVID-19 vaccine program in collaboration with the University of Miami in March 2020.

During the first quarter of 2020, preclinical studies using a cell-based COVID-19 vaccine expressing gp96-Ig, OX40L-Ig, and the SARS-CoV-2 spike glycoprotein (ZVX-60) were started under a sponsored research agreement with the University of Miami Miller School of Medicine. In July 2020, we announced proof-of-concept data demonstrating effective vaccine immunogenicity in relevant preclinical models, including expansion of human-HLA-restricted T cells against immunodominant epitopes of SARS-CoV-2 spike glycoprotein. Data showed robust T cell mediated immune response directed against the spike protein of SARS-CoV-2. In August 2020, we announced publication of positive preclinical COVID-19 vaccine results, which included supporting data that our gp96-based COVID-19 vaccine induces systemic and tissue-specific (e.g. lung) memory CD8+ T cells and tissue-resident memory CD8+ T cells. These results were published in the peer-reviewed journal *Frontiers in Immunology* in January 2021. In January 2021, we communicated that Waisman Biomanufacturing was contracted to complete process development and manufacturing for ZVX-60. This COVID-19 vaccine is especially suited for immune compromised patients and is being developed for use as either a standalone, or in combination with other vaccines, to enhance prophylactic protection against COVID-19.

The strategy for this program includes providing prophylactic protection to elderly patients and those with underlying health conditions to drive cellular immune responses via CD8+ T cells, in addition to humoral B cell immune responses. We currently plan to seek grant funding for further development of this program however to date we have not received any grant funding.

About PTX-35

Pelican is focused on developing an agonist PTX-35 mAb, against a T cell costimulatory receptor, TNFRSF25. PTX-35 is designed to harness antigen specific immune activation and tolerance mechanisms to reprogram immunity and provide a long-term, durable clinical effect. TNFRSF25 agonism has been shown to provide highly selective and potent stimulation of antigen experienced 'memory' CD8+ cytotoxic T cells, which are the class of long-lived T cells capable of eliminating tumor cells in patients. Due to the preferential specificity of PTX-35 to antigen experienced CD8+ T cells, this agent represents a promising candidate as a T cell co-stimulator biotherapeutic in cancer patients.

When combined in preclinical studies with Heat Biologics HS-110 and HS-130 immunotherapies or anti-PD-1 checkpoint inhibitor, PTX-35 has been shown to enhance antigen specific T cell activation to eliminate tumor cells. Pelican is also developing other immune biologics that target TNFRSF25 modulators for various immunotherapy approaches.

Our Bioanalytics, Process Development and Manufacturing Activities

To promote efficiency and reduce our reliance on third-party CDMO vendors, we plan on building in-house bioanalytic, process development, and manufacturing capabilities to support our current biotherapeutics and discovery pipeline. Manufacturing will also be offered to third parties as a fee-for-service model. We have identified a 20,441 square foot facility in San Antonio, Texas to conduct such services and are currently negotiating lease terms. Our proposed expansion in Texas is part of a company-wide-growth strategy to enhance efficiency and decrease our dependence on third-party CDMO vendors as we advance our clinical trials and translate our research and development pipeline. We estimate that the investment to build out the facility with labs, equipment, and staff will be approximately $26 million. Included in the $26 million is approximately $10 million that we expect to spend for lab equipment in the second half of 2021. This excludes federal new market tax credits, historical designation federal and state tax credits, as well as city and county tax abatement incentives which have been applied for with the City of San Antonio and Bexar County, respectively. We intend to fund this initiative with current working capital. The potential value of tax credits and tax incentives are estimated at approximately $4.5 million based on the total cost of the build out, employees hired, real property, and other factors. Operations at the facility are projected to commence by second quarter of 2022, and we expect to fill production capacity by immediately transitioning our outsourced manufacturing and development to in-house. Fee-for-service contracting with be offered to external customers after completion of the build out. However, there can be no assurance that we will be successful in these new operations. As of August 9, 2021, $3.8 million has been spent on laboratory related manufacturing equipment for the San Antonio Facility.

Recent Developments

On February 9, 2021, we announced positive interim data from our HS-110 Phase 2 trial. Substantial survival benefit was observed in a cohort of previously treated, checkpoint inhibitor naïve patients with advanced NSCLC (Cohort A, N = 47). A median progression free survival (PFS) of 1.8 months and a median overall survival (OS) of 24.6 months was observed with a median follow-up time of 19.4 months. The one-year survival rate of Cohort A is 61.7%. The median OS data was 12.2 months and the 1-year survival rate was 50.7% in previously treated, advanced NSCLC patients who received nivolumab as a single agent, according to published data of the BMS CheckMate 057 study. For NSCLC patients who had previously been treated with a checkpoint inhibitor and whose disease had subsequently progressed (Cohort B, N = 68), a median PFS of 2.8 months and median OS of 11.9 months was observed with a median follow-up time of 11.9 months. Published data from other studies reported median OS of 6.8 to 9.0 months for NSCLC patients treated with chemotherapies after PD-(L)1 progression. As of this data cut, 30% of the patients in Cohort A and 26% of the patients in Cohort B were still alive. HS-110 has a favorable safety profile and has been administered in approximately 200 patients to date. As of this data cut, there have been no treatment-related serious adverse reactions. A review of immune-related adverse events reported in the study raised no safety concerns. The data to date demonstrate that the combination of HS-110 and nivolumab is well-tolerated.

On April 12, 2021, we announced new preclinical data on PTX-35, demonstrating decreased regulatory T cell (Treg) activity and delayed tumor progression. In a B16F10 melanoma mouse model, PTX-35, in the presence of tumor antigen supplied by the Company's HS-110 immunotherapy, resulted in decreased regulatory T cell suppression and enhanced T effector responses. These changes were associated with delayed tumor progression.

On May 20, 2021, we announced that an abstract entitled "Interim results of viagenpumatucel-L (HS-110) plus nivolumab in previously treated patients (pts) with advanced non-small cell lung cancer (NSCLC) in two treatment settings" (the "Abstract") had been accepted for poster presentation at the 2021 ASCO Annual Meeting. In a cohort of previously treated, checkpoint inhibitor naïve patients with advanced NSCLC (cohort A, N = 47), we observed longer progression free survival (PFS) and overall survival (OS) in patients with injection site reactions (ISR) (hazard ratio [HR]=0.43, p=0.01; HR=0.23, p<0.001) and longer OS in patients with PD-L1 expression level ≥ 1% (HR 0.25, p=0.02). In patients who progressed after checkpoint inhibitor treatment (cohort B, N = 68), we observed longer OS in ISR+ patients (HR=0.48, p=0.03) and a trend toward extended OS in patients with baseline blood tumor mutational burden <10 mutations/ megabase

(HR=0.58, p=0.20). HS-110 treatment emergent adverse events (TEAEs) were reported in 21 (44.7%) patients in cohort A and 18 (26.5%) patients in cohort B. TEAEs reported in >5% of patients included fatigue, maculopapular rash, nausea, diarrhea, and pruritus. Few HS-110–related TEAEs led to discontinuation of treatment [cohort A, 5 (10.6%); cohort B, 3 (4.4%)], and no serious adverse events were considered related to HS-110 in this study.

On June 4, 2021, we presented a poster at the 2021 American Society of Clinical Oncology (ASCO) Annual Meeting entitled "Interim results of viagenpumatucel-L (HS-110) plus nivolumab in previously treated patients (pts) with advanced non-small cell lung cancer (NSCLC) in two treatment settings" (the "Poster"). In a cohort of previously treated, checkpoint inhibitor naïve patients with advanced NSCLC (Cohort A, N = 47), we observed median overall survival (mOS) of 24.6 months. In patients who progressed after checkpoint inhibitor treatment (Cohort B, N = 68), we observed mOS of 11.9 months. Multiple subset analyses including injection-site reaction (ISR) and tumor PD-L1 expression were performed.

- Significantly longer mOS was observed in patients with ISR compared with those without such a reaction for both Cohorts A and B.
- Extended survival benefit was observed in PD-L1 positive patients in Cohort A.
- A trend of improved overall survival was observed in patients with low blood tumor mutation burden in Cohort B.

On June 23, 2021, we announced the expansion of our research and development facilities in Morrisville, North Carolina. The expansion will support the addition of enhanced research and development capabilities including in-house synthesis of antibodies and other drugs/reagents as well as an expanded vivarium for onsite pre-clinical studies.

CRITICAL ACCOUNTING POLICIES AND SIGNIFICANT JUDGMENTS AND ESTIMATES

We believe that several accounting policies are important to understanding our historical and future performance. We refer to these policies as "critical" because these specific areas generally require us to make judgments and estimates about matters that are uncertain at the time we make the estimate, and different estimates—which also would have been reasonable—could have been used, which would have resulted in different financial results.

Our management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of our consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates based on historical experience and make various assumptions, which management believes to be reasonable under the circumstances, which form the basis for judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The notes to our consolidated financial statements contained herein and to our audited consolidated financial statements contained in our 2020 Annual Report contain a summary of our significant accounting policies. We consider the following accounting policies critical to the understanding of the results of our operations:

- Revenue;
- In-process R&D;
- Goodwill impairment;
- Income tax;
- Contingent consideration;
- Stock-based compensation;
- Research and development costs, including clinical and regulatory costs; and
- Recent accounting pronouncements.

RESULTS OF OPERATIONS

Comparison of the Three Months Ended June 30, 2021 and 2020

Revenues. For the three months ended June 30, 2021 we recognized $0.5 million of grant revenue for qualified expenditures under the CPRIT grant. For the three months ended June 30, 2020, we recognized $0.6 million of grant revenue for qualified expenditures under the CPRIT grant. The decrease in grant revenue in the current-year period primarily reflects the expected timing of completion of deliveries under the current phase of the contracts. As of June 30, 2021, we had a grant receivable balance of $0.4 million for CPRIT proceeds not yet received, but for which the costs had been incurred or the conditions of the award had been met. We continue our efforts to secure future non-dilutive grant funding to subsidize ongoing research and development costs.

Research and development expense. Research and development expenses increased approximately 50% to $4.2 million for the three months ended June 30, 2021 compared to $2.8 million for the three months ended June 30, 2020. The components of R&D expense are as follows, in millions:

	For the Three Months Ended June 30,	
	2021	2020
Programs		
HS-110	$ 0.9	$ 0.4
HS-130	0.2	0.2
PTX-35	0.5	0.3
COVID-19	0.5	0.1
Other programs	—	0.1
Unallocated research and development expenses	2.1	1.7
	$ 4.2	$ 2.8

- HS-110 expense increased $0.5 million, reflecting the current-period mix of development activities, primarily due to increased costs associated with our Phase 2 trial.
- HS-130 expense was $0.2 million and included regulatory consulting and investigator site payments for the ongoing Phase 1 clinical trial.
- PTX-35 expense increased $0.2 million primarily due to dosing of patients, third-party regulatory consulting and investigator site payments for the ongoing Phase 1 clinical trial.
- COVID-19 program was $0.5 million and primarily represents sponsored research agreement costs and manufacturing costs.
- Other programs include preclinical costs associated with our Zika program, T cell costimulatory programs, and laboratory supplies.
- Unallocated research expenses primarily reflects personnel costs, including stock-based compensation from stock awards.

General and administrative expense. General and administrative expense was $2.9 million and $1.8 million for the three months ended June 30, 2021 and 2020. The increase was due to increased personnel costs of $0.2 million, increased stock-based compensation expense of $0.3 million, increase in franchise tax expense of $0.2 million, increase of D&O insurance of $0.1 million, and an increase of $0.3 million for consulting and other professional expenses to manage the business.

Change in fair value of contingent consideration. The change in fair value of contingent consideration was $0.1 million for the three months ended June 30, 2021, compared to $0.8 million for the three months ended June 30, 2020. The change in the 2021 period primarily reflects the increased timeline of the Phase 1a trial.

Total non-operating income (loss). Total non-operating income was $0.1 million for the three months ended June 30, 2021 which primarily consisted of $0.2 million of interest income, and ($0.1) million of unrealized losses on short-term

investment balances. Total non-operating income was $0.3 million for the three months ended June 30, 2020 which primarily consisted of $0.3 million of unrealized gains on short-term investment balances.

Net loss attributable to Heat Biologics, Inc. We had a net loss attributable to Heat Biologics, Inc. of $6.5 million, or ($0.26) per basic and diluted share for the three months ended June 30, 2021 compared to a net loss of $4.5 million, or ($0.35) per basic and diluted share for the three months ended June 30, 2020.

Comparison of the Six Months Ended June 30, 2021 and 2020

Revenues. For the six months ended June 30, 2021, we recognized $1.0 million of grant revenue for qualified expenditures under the CPRIT grant and NIH grant. For the six months ended June 30, 2020, we recognized $1.5 million of grant revenue for qualified expenditures under the CPRIT grant. The decrease in grant revenue in the current-year period primarily reflects the expected timing of completion of deliveries under the current phase of the contracts. As of June 30, 2021, we had a grant receivable balance of $0.4 million for CPRIT proceeds not yet received but for which the costs had been incurred or the conditions of the award had been met. We continue our efforts to secure future non-dilutive grant funding to subsidize ongoing research and development costs.

Research and development expense. Research and development expenses increased approximately 35.7% to $7.6 million for the six months ended June 30, 2021 compared to $5.6 million for the six months ended June 30, 2020. The components of R&D expense are as follows, in millions:

	For the Six Months Ended June 30,	
	2021	2020
Programs		
HS-110	$ 1.2	$ 0.4
HS-130	0.3	0.4
PTX 35	1.1	1.1
COVID-19	0.9	0.1
Other programs	0.2	0.1
Unallocated research and development expenses	3.9	3.5
	$ 7.6	$ 5.6

- HS-110 expense increased $0.8 million, reflecting the current-period mix of development activities, primarily due to increased costs associated with the transition of patients from active treatment into long-term follow-up, and increased manufacturing costs.
- HS-130 expense decreased $0.1 million due to dosing of patients, third-party regulatory consulting and investigator site payments for the ongoing Phase 1 clinical trial.
- PTX-35 expense was $1.1 million primarily consisting of manufacturing development and patient dosing.
- COVID-19 program was initiated in Q1 2020 and primarily represents sponsored research agreement costs.
- Other programs include preclinical costs associated with our Zika program, T cell costimulatory programs, and laboratory supplies.
- Unallocated research expenses primarily reflects personnel costs, including stock-based compensation from stock awards.

General and administrative expense. General and administrative expense was $7.6 million and $5.1 million for the six months ended June 30, 2021 and 2020. The increase was primarily due to an increase in stock-based compensation expense of $2.2 million, an increase in D&O insurance premiums of $0.2 million, an increase in consulting expenses of $0.3 million, partially offset by a reduction of public company expenses of ($0.2) million.

Change in fair value of contingent consideration. The change in fair value of contingent consideration was $0.1 million for the six months ended June 30, 2021, compared to $0.8 million in the six months ended June 30, 2020. The change in the 2021 period primarily reflects the re-calculation of discounted cash flows for the passage of time and milestone achievement.

Total non-operating income (loss). Other income was $0.1 million for the six months ended June 30, 2021, compared to a loss of $(0.9) million for the six months ended June 30, 2020. The change of $1.0 million primarily consists of a decrease in extinguishment expense and changes in fair value related to warrants of ($1.0) million, and an increase in interest income on cash and short-term investment balances of $0.3 million and $(0.3) million of unrealized losses on short-term investment balances.

Net loss attributable to Heat Biologics, Inc. We had a net loss attributable to Heat Biologics, Inc. of $14.1 million, or ($0.57) per basic and diluted share for the six months ended June 30, 2021 compared to a net loss of $10.7 million, or ($1.04) per basic and diluted share for the six months ended June 30, 2020.

LIQUIDITY AND CAPITAL RESOURCES

Sources of Liquidity

Since our inception in June 2008, we have incurred significant losses and we have financed our operations with net proceeds from the private placement of our preferred stock, common stock and debt. Since our initial public offering, we have primarily financed our operations with net proceeds from the public offering of our securities and to a lesser extent, the proceeds from the exercise of warrants. On January 21, 2020, we closed an underwritten public offering of shares of our common stock and warrants to purchase shares of our common stock pursuant to which we received net proceeds of approximately $6.4 million. For the year ended December 31, 2020 we received net proceeds of approximately $114.4 million from sales of our common stock in at-the-market offerings. For the six months ended June 30, 2021 we received net proceeds of $25.6 million from the sale of 2,106,027 shares of our common stock in at-the-market offerings. We had no sales of our common stock in at-the-market offerings for the three months ended June 30, 2021. As of June 30, 2021, we had an accumulated deficit of $144.7 million. We had net losses of $26.4 million and $20.4 million for the years ended December 31, 2020 and 2019, respectively. We had net losses of $14.2 million and $10.9 million for the six months ended June 30, 2021 and 2020, respectively.

We expect to incur significant expenses and continued losses from operations for the foreseeable future. We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the research and development and advance our clinical trials of, and seek marketing approval for, our product candidates and as we add to our product candidate pipeline. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution. Although we currently have sufficient funds to complete our Phase 2 clinical trials, as currently planned, and expect that we will have sufficient funds to fund our operations into 2024, we will need to obtain substantial additional future funding in connection with our future planned clinical trials, the manufacturing facility that we intend to build in San Antonio, Texas and any new programs or ventures we pursue. While we are currently funding vaccine development and preclinical studies, we do not expect to use significant corporate resources to advance our COVID-19 program. We are applying for several large grants to support clinical development of this program and are engaged in collaboration discussions, which we believe may provide attractive and non-dilutive pathways to help accelerate development of our COVID-19 program; however, to date we have not received any grant funding for such program and there can be no assurance that we will receive such grant funding or if received, the amount of such grant funding. Adequate additional financing may not be available to us on acceptable terms, or at all. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs or any future commercialization efforts. To meet our capital needs, we are considering multiple alternatives, including, but not limited to, additional equity financings, which include sales of our common stock under at-the-market offerings, if available, debt financings, partnerships, collaborations and other funding transactions. This is based on our current estimates, and we could use our available capital resources sooner than we currently expect. We will need to generate significant revenues to achieve profitability, and we may never do so. As of June 30, 2021, we had approximately $122.5 million in cash and cash equivalents and short-term investments.

Cash Flows

Operating activities. The use of cash during the six months ended June 30, 2021 and 2020 resulted primarily from our net losses adjusted for non-cash charges and changes in components of working capital. Net cash used in operating activities during the six months ended June 30, 2021 was $11.0 million compared to $10.1 million during the same period in 2020.

The increase was primarily due to an increased net loss of $3.3 million, an increase in stock-based compensation of $2.2 million, and an increase in accounts payable and accrued expenses of $1.5 million offset by a decrease in change in fair value of warrants and contingent consideration of $1.7 million and a decrease in deferred revenue of $0.9 million.

Investing activities. Net cash used in investing activities was $4.0 million during the six months ended June 30, 2021 compared to $20.7 million during the same period in 2020. The decrease is from the change in net purchases of short-term investments of $20.2 million from 2021 to 2020, offset by change in purchases of property and equipment of $3.4 million.

Financing activities. Net cash provided by financing activities was $25.6 million during the six months ended June 30, 2021 compared to $42.5 million during the six months ended June 30, 2020. The decrease of $16.9 million was primarily due to net decreased sales of our common stock through an at-the-market Common Stock Sales Agreement with B. Riley FBR, Inc. and Cantor Fitzgerald & Co. for $10.7 million, net of the decrease in related stock issuance costs of $0.4 million, partially offset by a public offering of shares only occurring in 2020 of $6.6 million.

Current and Future Financing Needs

We have incurred an accumulated deficit of $144.7 million through June 30, 2021. We have incurred negative cash flows from operations since we started our business. We have spent, and expect to continue to spend, substantial amounts in connection with implementing our business strategy, including our planned product development efforts, our clinical trials, and our research and discovery efforts.

In order to promote efficiency and reduce our reliance on third-party vendors, we plan to enhance our in-house development of bioanalytic, process development and manufacturing capabilities and offer such services to third parties for fees. We have identified a 20,441 square foot facility in San Antonio, TX to conduct such services and are currently negotiating lease terms. Our proposed expansion in Texas is part of a company-wide-growth strategy to enhance efficiency and decrease our dependence on third-party vendors as we advance our clinical trials and general research and development. We estimate that the investment to build out the facility with labs, equipment, and staff will be approximately $26 million, without taking into account federal new market tax credits based on the location in San Antonio, federal and state historical tax credits based on the historical designation of the facility, as well as city and county tax abatement incentives which have been applied for with the City of San Antonio and Bexar County, respectively. Included in the $26 million is approximately $10 million that we expect to spend for lab equipment in the second half of 2021. We intend to fund this initiative with current working capital. The potential value of tax credits and tax incentives are estimated to be up to approximately $4.5 million based on the total cost of the build out, employees hired, real property, and other factors. Operations at the facility are projected to commence by second quarter of 2022, and we expect to fill production capacity by transitioning our outsourced manufacturing and development to in-house immediately and followed by contracting with external customers. However, there can be no assurance that we will be successful in these new operations. As of August 9, 2021 we have spent $3.8 million on laboratory related manufacturing equipment for the San Antonio facility.

We intend to meet our financing needs through multiple alternatives, including, but not limited to, cash on hand, additional equity financings, debt financings and/or funding from partnerships or collaborations and potential revenue, if any, from our planned development and manufacturing facility.

However, the actual amount of funds we will need to operate is subject to many factors, some of which are beyond our control. These factors include the following:

- the progress of our research activities;
- the number and scope of our research programs;
- the progress of our preclinical and clinical development activities;
- the progress of the development efforts of parties with whom we have entered into research and development agreements;
- our expansion plans and cash needs of any new projects such as our planned development and manufacturing facility described above;

- the cost we incur to build the facility for the development of bioanalytics, process development and manufacturing activities, the cost of the equipment required for such facility and the revenue derived from such facility
- our ability to maintain current research and development licensing arrangements and to establish new research and development and licensing arrangements;
- our ability to achieve our milestones under licensing arrangements;
- the costs involved in prosecuting and enforcing patent claims and other intellectual property rights;
- the costs and timing of regulatory approvals;
- the receipt of grant funding if any; and
- clinical laboratory development and testing.

We have based our estimate on assumptions that may prove to be wrong. We may need to obtain additional funds sooner or in greater amounts than we currently anticipate. Potential sources of financing include strategic relationships, public or private sales of our equity or debt and other sources. We may seek to access the public or private equity markets when conditions are favorable due to our long-term capital requirements. We do not have any committed sources of financing at this time, and it is uncertain whether additional funding will be available when we need it on terms that will be acceptable to us, or at all. If we raise funds by selling additional shares of common stock, such as through the Amended and Restated Common Stock Sales Agreement with B. Riley FBR, Inc. and Cantor Fitzgerald & Co., or other securities convertible into common stock, the ownership interest of our existing stockholders will be diluted. If we are not able to obtain financing when needed, we may be unable to carry out our business plan. As a result, we may have to significantly limit our operations and our business, financial condition and results of operations would be materially harmed. While we are experiencing limited financial impacts at this time, given the global economic slowdown, the overall disruption of global healthcare systems and the other risks and uncertainties associated with the pandemic, our business, financial condition, results of operations and growth prospects could be materially adversely affected.

OFF-BALANCE SHEET ARRANGEMENTS

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under Securities and Exchange Commission rules.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act and are not required to provide the information required under this item.

ITEM 4. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2021. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. We have adopted and maintain disclosure controls and procedures (as defined Rules 13a-15(e) and 15d-15(e) under the Exchange Act) that are designed to provide reasonable assurance that information required to be disclosed in the reports filed under the Exchange Act, such as this Quarterly Report on Form 10-Q, is collected, recorded, processed, summarized and reported within the time periods specified in the rules of the SEC. Our disclosure controls and procedures are also designed to ensure that such information is accumulated and communicated to management to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how

well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2021 our Chief Executive Officer and Chief Financial Officer concluded that, as of such a date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

During the three months ended June 30, 2021, there were no changes in our internal control over financial reporting (as defined in Rules 13a 15(f) and 15d 15(f) of the Exchange Act) that occurred that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

From time to time we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. We are not presently a party to any legal proceedings that, if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, financial condition or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

ITEM 1A. RISK FACTORS.

Investing in our securities involves a high degree of risk. You should consider carefully the following risks, together with all the other information in this Quarterly Report on Form 10-Q, including our condensed consolidated financial statements and notes thereto. If any of the following risks actually materializes, our operating results, financial condition and liquidity could be materially adversely affected. The following information updates should be read in conjunction with the information disclosed in Part 1, Item 1A, "Risk Factors," contained in our 2020 Annual Report. Except as disclosed below, there have been no material changes from the risk factors and uncertainties disclosed in our 2020 Annual Report.

We have incurred net losses every year since our inception and expect to continue to generate operating losses and experience negative cash flows and it is uncertain whether we will achieve profitability.

We have incurred net losses in each year since our inception, including net losses of $14.2 million and $10.9 million for the six months ended June 30, 2021 and 2020, respectively. We had an accumulated deficit of $144.7 million as of June 30, 2021. For the years ended December 31, 2020 and 2019, we incurred a net loss of $26.4 million and $20.4 million, respectively. We expect to continue to incur operating losses until such time, if ever, as we are able to achieve sufficient levels of revenue from operations. Our ability to achieve profitability will depend on us obtaining regulatory approval for our product candidates and market acceptance of our product offerings and our capacity to develop, introduce and sell our products to our targeted markets. There can be no assurance that any of our product candidates will be approved for commercial sale, or even if our product candidates are approved for commercial sale that we will ever generate significant sales or achieve profitability. Accordingly, the extent of future losses and the time required to achieve profitability, if ever, cannot be predicted at this point.

Even if we succeed in developing and commercializing one or more product candidates, we expect to incur substantial losses for the foreseeable future and may never become profitable. We also expect to continue to incur significant operating expenses and anticipate that our expenses will increase substantially in the foreseeable future as we:

- continue to undertake preclinical development and conduct clinical trials for product candidates;
- seek regulatory approvals for product candidates;
- implement additional internal systems and infrastructure;
- build a facility for the development of bioanalytics, process development and manufacturing activities; and

- hire additional personnel.

We also expect to experience negative cash flows for the foreseeable future as we fund our operating losses. As a result, we will need to generate significant revenues or raise additional financing in order to achieve and maintain profitability. We may not be able to generate these revenues or achieve profitability in the future. Our failure to achieve or maintain profitability would likely negatively impact the value of our securities and financing activities.

We may need to raise additional capital to support our long-term business plans and our failure to obtain funding when needed may force us to delay, reduce or eliminate our development programs or commercialization efforts.

During the six months ended June 30, 2021, our operating activities used net cash of approximately $11.0 million and as of June 30, 2021, our cash and cash equivalents and short-term investments were approximately $122.5 million. During the years ended December 31, 2020 and 2019, our operating activities used net cash of approximately $22.0 million and $12.8 million, respectively. We expect to incur additional operating losses in the future and therefore expect our cumulative losses to increase. We do not expect to derive revenue from any significant source in the near future until we or our potential partners successfully commercialize our products. We expect to incur additional operating losses in the future and therefore expect our cumulative losses to increase. We do not expect to derive revenue from any of our product candidates in the near future until we or our potential partners successfully commercialize our products. We expect our expenses to increase if and when we initiate and conduct Phase 3 and other clinical trials and seek marketing approval for our product candidates. Until such time as we receive approval from the FDA and other regulatory authorities for our product candidates, we will not be permitted to sell our products and therefore will not have product revenues from the sale of products.

We will need to raise additional capital to fund our long term operations and milestone payments and we cannot be certain that funding will be available to us on acceptable terms on a timely basis, or at all. To meet our financing needs, we are considering multiple alternatives, including, but not limited to, additional equity financings, which we expect will include sales of common stock through at the market issuances, debt financings and/or funding from partnerships or collaborations. Our ability to raise capital through the sale of securities may be limited by our number of authorized shares of common stock and various rules of the SEC and the Nasdaq Capital Market that place limits on the number and dollar amount of securities that we may sell. Any additional sources of financing will likely involve the issuance of our equity or debt securities, which will have a dilutive effect on our stockholders, assuming we are able to sufficiently increase our authorized number of shares of common stock. To the extent that we raise additional funds by issuing equity securities, our stockholders may experience significant dilution. Any debt financing, if available, may involve restrictive covenants that may impact our ability to conduct our business. If we fail to raise additional funds on acceptable terms, we may be unable to complete planned preclinical and clinical trials or obtain approval of our product candidates from the FDA and other regulatory authorities or continue to maintain our listing on the Nasdaq Capital Market. In addition, we could be forced to delay, discontinue or curtail product development, forego sales and marketing efforts, and forego licensing in attractive business opportunities. Any additional sources of financing will likely involve the issuance of our equity or debt securities, which will have a dilutive effect on our stockholders.

We have a limited operating history conducting commercial development of bioanalytics, process development and manufacturing activities, which may limit the ability of investors to make an informed investment decision.

We plan to expand our operations by operating a facility for the development of bioanalytics, process development and manufacturing activities. To date, we have limited experience manufacturing products for third parties and ourselves. Because of the numerous risks and uncertainties associated with development and manufacturing, we are unable to predict if we will be successful in providing such services to ourselves or third parties. Although we plan to use our anticipated facility to service our internal manufacturing needs, we also intend to generate revenue to pay for the expenses we incur in operating the facility as well as the initial start-up expenses from third parties. Our ability to generate this revenue will depend, in part, on our ability to attract and maintain customers for our development, manufacturing and technology transfer services and on the amount of spent by the customers on such services. If our anticipated facility fails to attract customers and operate at sufficient capacity, our margins will suffer, and we may not be able to fund the costs we incur to operate the facility. Our bioanalytics, process development and manufacturing activities will also depend, in part, on our

ability to attract and retain an appropriately skilled and sufficient workforce to operate our development and manufacturing facility and our ability to comply with various quality standards and environmental, health and safety laws and regulations.

Future sales of our common stock by our existing stockholders could cause our stock price to decline.

On August 9, 2021, we had 25,397,376 shares of our common stock outstanding, all of which are currently eligible for sale in the public market, subject, in certain circumstances to the volume, manner of sale and other limitations under Rule 144 promulgated under the Securities Act. It is conceivable that stockholders may wish to sell some or all of their shares. If our stockholders sell substantial amounts of our common stock in the public market at the same time, the market price of our common stock could decrease significantly due to an imbalance in the supply and demand of our common stock. Even if they do not actually sell the stock, the perception in the public market that our stockholders might sell significant shares of our common stock could also depress the market price of our common stock.

A decline in the price of shares of our common stock might impede our ability to raise capital through the issuance of additional shares of our common stock or other equity securities, and may cause stockholders to lose part or all of their investment in our shares of common stock.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

The Company did not have any sales of unregistered securities during the quarter ended June 30, 2021 that were not previously disclosed in our Current report on Form 8-K.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

Not Applicable.

ITEM 4. MINE SAFETY DISCLOSURES.

Not Applicable.

ITEM 5. OTHER INFORMATION.

None.

ITEM 6. EXHIBITS.

The exhibits filed as part of this Quarterly Report on Form 10-Q are set forth on the Exhibit Index. The Exhibit Index is incorporated herein by reference.

EXHIBIT INDEX

Exhibit No.	Description
3.1	Third Amended and Restated Certificate of Incorporation of Heat Biologics, Inc. dated as of March 20, 2013 (incorporated by reference to Exhibit 3.5 to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (File No. 333-188365)).
3.2	Certificate of Amendment of the Third Amended and Restated Certificate of Incorporation of Heat Biologics, Inc. dated as of May 29, 2013 filed on May 30, 2013 (incorporated by reference to Exhibit 3.6 to the Registration Statement on Form S-1/A with the Securities and Exchange Commission on May 30, 2013 (File No. 333-188365)).
3.3	Certificate of Amendment of the Third Amended and Restated Certificate of Incorporation of Heat Biologics, Inc. dated as of July 13, 2017 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K/A filed with the Securities and Exchange Commission on July 17, 2017 (File No. 001-35994)).
3.4	Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation of Heat Biologics, Inc. dated as of January 18, 2018 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on January 19, 2018 (File No. 001-35994)).
3.5	Amended and Restated Bylaws, dated October 17, 2019 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on October 18, 2019 (File No. 001-35994)).
3.6	Certificate of Amendment of the Third Amended and Restated Certificate of Incorporation of Heat Biologics, Inc. dated as of March 20, 2020 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8 K with the Securities and Exchange Commission on March 23, 2020 (File No. 001-35994)).
3.7	Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation of Heat Biologics, Inc. dated as of December 11, 2020 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on December 10, 2020) File no. 001-35994).
10.1	Lease between Durham Keystone Tech 7, LLC and Heat Biologics, Inc. dated June 19, 2021((incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 23, 2021 (File No. 001-35994)).
10.2*	License Agreement (UM-97-14) between University of Miami and Heat Biologics, Inc. dated July 11, 2008.
10.3*	License Agreement (UMD-107)between University of Miami and Heat Biologics 1, Inc. dated February 18, 2011.
10.4*	License Agreement (UMSS114A) between University of Miami and Heat Biologics 1, Inc. dated February 18, 2011.
10.5*	License Agreement between University of Miami and Zolovax, Inc. dated October 24, 2016.
31.1*	Certification of Jeffrey Wolf, Principal Executive Officer, pursuant to Rule 13a 14(a) or15d 14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of William Ostrander, Principal Financial Officer and Principal Accounting Officer, pursuant to Rule 13a 14(a) or15d 14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Jeffrey Wolf, Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of William Ostrander, Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in Exhibits 101).

* Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

HEAT BIOLOGICS, INC.

Date: August 11, 2021

By: /s/ Jeffrey A. Wolf
Jeffrey A. Wolf
Chairman and Chief Executive Officer
(Principal Executive Officer)

Date: August 11, 2021

By: /s/ William Ostrander
William Ostrander
Chief Financial Officer
(Principal Financial and Accounting Officer)

LICENSE AGREEMENT

This License Agreement (the "Agreement") is entered into and made effective the 11th day of July, 2008 (the "Effective Date") between UNIVERSITY OF MAIMI and its School of Medicine, whose principal place of business is at 100 N.W. 10th Avenue, Miami Florida 33136 (hereinafter referred to as "LICENSOR") and HEAT BIOLOGICS, INC., a Delaware corporation whose principal place of business is at Atlantic Center, 199 Washington Avenue, Suite 401, Miami Beach FL 33139 (hereinafter referred to as "LICENSEE").

WITNESSETH

WHEREAS LICENSOR is the sole owner of the technology and product identified as the Podack Cancer Vaccine (UM97-14):

WHEREAS LICENSOR is the sole owner of the patent rights relating to the Podack Cancer Vaccine (UM97-14) technology:

WHEREAS LICENSOR wishes to exclusively license to LICENSEE the Podack Cancer Vaccine (UM97-14) technology and patent rights related thereto: and

WHEREAS LICENSEE desires to acquire an exclusive license from LICENSOR to the Podack Cancer Vaccine (UM97-14) technology and patent rights related thereto for the purpose of commercially marketing the Podack Cancer Vaccine (UM97-14) technology.

NOW THEREFORE, For these and other valuable considerations, the receipt of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS:

1.1 "Affiliate" shall mean any corporation or other business entity controlled by, controlling or under common control with LICENSEE. For this purpose, "control" shall mean direct or indirect beneficial ownership of at least fifty percent (50%) of the voting stock of, or at least a fifty percent (50%) interest in the income of such

corporation or other business entity, or such other relationship as in fact, constitutes actual control.

1.2 "Sublicensee" as used in this Agreement shall mean any third party to whom LICENSEE has granted a license to make, have made, use and or sell the Product under the Patent Rights, provided said third party has agreed in writing with LICENSEE to accept the conditions and restrictions agreed to by LICENSEE in this Agreement.

1.3 "Patent Rights" shall mean the following United States Patent applications: U.S. provisional patent application serial number 60/075.358 entitled "Modified Heat Shock Protein-antigenic Peptide Complex" and filed on February 20, 1998: U.S. patent application serial number 09 253.439 entitled "Modified Heat Shock Protein-Antigenic Peptide Complex" and filed on February 19, 1999: U.S. patent application serial number 11/878.460 entitled "Recombinant Cancer Cell Secreting Modified Heat Shock Protein-antigenic Peptide Complex" and filed on July 24, 2008: all United States patents and foreign patents and patent applications based on these U.S. applications: all divisionals, continuations of the foregoing: and those claims in continuations-in-part of the foregoing that are described in sufficient detail in U.S. provisional patent applications serial number 60/075.358. U.S. Patent application serial number 09 253.439, or U.S. patent application serial number 11/878.460 to meet the requirements of 35 U.S.C. 112¶1; and any re-examinations or reissues of the foregoing. "Patent Rights" shall not include Excluded Patent Rights.

1.4 "Excluded Patent rights" shall mean United States Patent Application number 10/923.373: all divisionals, continuations of the foregoing: and those claims in continuations-in-part of the foregoing that are described in sufficient detail in United States Patent Application number 10/923.373 to meet the requirements of 35 U.S.C. 112¶1: and any re-examinations or reissues of the foregoing.

1.5 "Licensed Product" shall mean any product or part thereof which:

(a) is covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or a pending claim contained in the Patent Rights:

(b) is manufactured by using a process which is covered in whole or in party by an issued, unexpired, and not adjudicated unenforceable claim or a pending claim contained in the Patent Rights: or

(c) incorporated or comprises the Podack Cancer Vaccine (UM97-14) or the cell line "AD100-gp96/III.A".

1.6 "Licensed Process" shall mean any process practiced in a country in which said process is covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or pending claim contained in the Patent Rights.

1.7 "Net Sales" shall mean the sum of all amounts invoiced on account of sale or use of Licensed Products and Licensed Processes by LICENSEE and its Affiliates of any Sublicensees to non-affiliated third party purchasers or users of Licensed Products of Licensed Processes, less (a) discounts to purchasers in amounts customary in the trade. (b) amounts for transportation or shipping charges to purchasers. (c) credits for returns, allowances or trades, and (d) taxes and duties levied on the sale or use of Licensed Products. Whether absorbed by Licensee or paid by the purchaser.

1.8 "Territory" shall mean worldwide

1.9 "Field of Use" shall mean all human healthcare and research applications.

1.10 The "Podack Cancer Vaccine (UM97-14)" technology shall mean the technology described in Appendix A attached hereto.

1.11 "Licensed Materials" shall mean any modified AD100 cell lines that have been engineered to secrete gp96.

1.12 "Improvements" shall mean any new patentable methods of using the Podack Cancer Vaccine (UM97-14) to treat cancer made by LICENSOR while conducting the clinical trial SCCC2002041: Novel Tumor Vaccine gp96-Ig Fusion Protein in Advance (Stage IIIB), Relapsed or Metastatic (Stage IV Non-small Cell Lung Cancer. NSC1.C) Patients Who have Failed First Line Chemotherapy (IND10940) that would infringe a claim in U.S. provisional patent application serial number 60 075.358.U.S. patent application serial number 09 253.439: U.S. patent application serial number 11/878.460: all United States patents and foreign patents and patent applications based on

these U.S. applications: all divisionals, and continuations of the foregoing: or any re-examinations or reissues of the foregoing.

2. GRANT:

2.1 LICENSOR hereby grants to LICENSEE and exclusive license. Subject to any rights of the U.S. government specified in section 4 below, in the Territory for the Field of Use, with the right to sublicense, under the Patent Rights, to make, have made for its own use and sale, use and sell Licensed Products and Licensed Processes. No rights to US Patent Application Serial Number 10/923.373 is being granted.

2.2 LICENSOR also hereby grants to LICENSEE an exclusive license to make. use. and/or sell the Licensed Materials in the Territory for Field of Use. At LICENSEE's request, LICENSOR shall provide LICENSEE with a reasonable amount of Licensed Materials so that LICENSEE may reproduce such Licensed Materials for the purpose of making, selling, or using Licensed Products or Licensed Processes.

2.3 LICENSOR reserves to itself the non-transferable right to make and use Licensed Materials. Licensed Products and/or Licensed Processes solely for its internal. non-commercial: scientific research, not-for profit clinical research, and educational purposes. Except to the extent required by law. LICENSOR shall not transfer the Licensed Materials or the AD100 cell line for the purpose of making the Licensed Materials to any third party to not use or further distribute such materials for commercial purposes. LICENSOR shall notify LICENSEE in writing of any third party request for such materials and provide LICENSEE at least ten (10) days to object to such request on the basis that such transfer would interfere with the objectives of this Agreement.

2.4 LICENSOR grants to LICENSEE: a six (6) month exclusive option to negotiate a worldwide royalty-bearing, exclusive license with right to sublicense for any Improvement. The specific terms of said license to be negotiated in good faith by the parties taking into account the terms and purpose of this Agreement. To preserve the patent rights in each Improvement, at LICENSEE's request and sole expense. LICENSOR

shall file a patent application for each Improvement prior to the expiration of the confidentiality period specified in section 10.3.

3. TERM:

The license granted by this Agreement shall be exclusive in the licensed Field of Use for a term commencing as of the effective date of this Agreement and continue until the expiration, on a country by country basis. of all of the Patent Rights.

4. UNITED STATES LAWS:

4.1 Licensee understands that the Licensed Subject Matter may have been developed under a funding agreement with the Government of the United States of America and, if so, that the Government may have certain rights relative thereto. This Agreement is explicitly made subject to the Government's rights under any agreement and any applicable law or regulation. If there is a conflict between an agreement, applicable law or regulation and this Agreement, the terms of the Government agreement, applicable law or regulation shall prevail.

Specifically. This Agreement is subject to all of the terms and conditions of Title 35 United States Code sections 200 through 204, including an obligation that Licensed Product(s) sold or produced in the United States be "manufactured substantially in the United States," and LICENSEE agrees to take all reasonable action necessary on its part as licensee to enable LICENSOR to satisfy its obligation thereunder, relating to Inventions(s).

4.2 It is understood that LICENSOR is subject to United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities (including the Arms Export Control Act. as amended and the Export Administration Act of 1979), and that its obligations hereunder are contingent on compliance with applicable United States export laws and regulations. The transfer of certain technical data and commodities may require a license from the cognizant agency of the United States Government and or written assurances by LICENSEE that LICENSEE shall not export data or commodities to certain foreign

countries without prior approval of such agency. LICENSOR neither represents that a license shall not be required nor that. if required. it shall be issued.

5. PATENT PROTECTION AND INFRINGEMENT:

5.1 LICENSOR. during the term of this Agreement, is responsible for the filing and the prosecution of all patents and applications where LICENSEE shall reimburse LICENSOR for all payments within thirty (30) days of invoice. LICENSOR shall keep LICENSEE fully apprised on the status of all Patent Rights and shall provide LICENSEE the opportunity to make comments and suggestions on all decisions relating to the prosecution of the Patent Rights (e.g.. office actions). LICENSOR shall in good faith consider incorporating such comments and suggestions unless such incorporation would be contrary to the purposes of this Agreement.

5.2 LICENSEE shall promptly notify LICENSOR in writing of any claim of Patent Rights infringement which may be asserted against LICENSEE or LICENSOR, its Affiliates and any sublicensees because of the manufacture, use, promotion and sale of Products.

5.3 LICENSEE shall pay to LICENSOR in the amount of $25,000 on or before May 31, 2009. another payment in the amount of $25,000 on or before May 31, 2010, which sum represents about 50% costs of preparation, filing, prosecution, issuance, and maintenance of the Licensed Patents incurred prior to the Effective Date.

5.4 LICENSEE will defend, indemnify and hold harmless LICENSOR, its Trustees, officers. Directors, employees, and its Affiliates against any and all judgments and damages arising from any and all third party claims of Patent Rights infringement which may be asserted against LICENSOR, and Affiliates because of the manufacture, use, promotions and sale of Licensed Products. LICENSEE will bear all costs and expenses incurred in connection with the defense of any such claims or as a result of any settlement made or judgment rendered on the basis of such claims. LICENSOR shall have no further liability to LICENSEE for any loss of damages LICENSEE may incur as a result of the invalidity of LICENSOR'S Patent Rights. LICENSOR will have the right, but not the obligation to retain counsel at its expense in connection with any such claim.

LICENSOR at its option, shall have the right, within thirty days after commencement of such action, to intervene and take over the sole defense of the action at its own expense.

5.5 Upon learning of any infringement of Patent Rights by third parties in any country. LICENSEE and LICENSOR will promptly inform each other. as the case may be, in writing of that fact and will supply the other with any available evidence pertaining to the infringement. LICENSEE at its own expense, shall have the option to take whatever steps are necessary to stop the infringement at its expense and recover damages therefore. If requested by LICENSEE, LICENSOR will join in any legal actions enforcing or defending the Patent Rights against third parties deemed necessary or advisable by LICENSEE to prevent or seek damages, or both, from the infringement of the Patent Rights provided that LICENSEE funds all costs associated with such actions, using counsel mutually acceptable to LICENSEE and LICENSOR, and indemnified and holds LICENSOR harmless with respect to any claims or damages made against of sustained by LICENSOR in connection with such involvement. In the event that LICENSOR and LICENSEE mutually bring suit, costs and expenses shall be borne by LICENSEE and any recovery shall be shared by the parties as if such infringing sales were Net Sales. In any event, no settlement, consent, judgment or other voluntary final disposition of the suit may be entered into without the consent of LICENSOR, which shall not be unreasonably withheld. In the event LICENSEE does not take steps to stop the infringement, LICENSOR shall have the right to bring suit at its own expense. In such event, financial recoveries will be entirely retained by LICENSOR.

5.6 LICENSOR shall have no responsibility with respect to LICENSEE'S own trademarks and tradename. and LICENSEE in respect to the use thereof will defend, indemnify and hold harmless LICENSOR against any and all third party claims.

6. INDEMNIFICATION:

6.1 Licensee agrees to release, indemnify and hold harmless the LICENSOR, its trustees, officers, faculty, employees, Affiliates, agents and students against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including reasonable attorney's fees through the appellate levels) which may be brought

against LICENSOR, its trustees, officers, faculty, employees, Affiliates, agents and/or students as a result of or arising out of any willful misconduct or negligent act or omission of LICENSEE, its agents, or employees, or arising out of use, production, manufacture, sale, lease, consumption or advertisement by LICENSEE or any third party, including any Sublicensee of any Licensed Product, Licensed Patent, Licensed Process, or Licensed Materials covered by this Agreement.

6.2 LICENSOR agrees to release and hold harmless the LICENSEE, its directors, officers, employees, Affiliates, Sublicensees, and agents against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including reasonable attorney's fees through the appellate levels) which may be brought against LICENSEE, its directors, officers, employees, Affiliates, Sublicensees, and/or agents as a result of or arising out of any willful misconduct, or negligent act or omission of LICENSOR.

6.4 This Agreement to reimburse and indemnify under the circumstances set forth above shall continue after the termination of this Agreement.

7. REPRESENTATIONS/WARRANTIES:

7.1 LICENSOR hereby represents and warrants to LICENSEE that LICENSOR owns the Patent Rights and Licensed Materials and has not assigned any rights therein or given any license or other rights thereto to any party other than LICENSEE.

7.2 LICENSOR hereby represents and warrants that, although it has not conducted any investigation, it has no knowledge of any patents or patent applications, other than the Patent Rights, that: contain a claim that would be infringed by the sale or use of a Licensed Product, Licensed Process, or Licensed Materials.

7.3 EXCEPT AS PROVIDED ABOVE. LICENSOR MAKES NO WARRANTIES. EXPRESS OR IMPLIED. AND HEREBY DISCLAIMS ALL SUCH WARRANTIES, AS TO ANY MATTER WHATSOEVER. INCLUDING. WITHOUT LIMITATION, THE CONDITION OF ANY INVENTION(S) OR PRODUCT. WHETHER TANGIBLE OR INTANGIBLE. LICENSED UNDER THIS AGREEMENT: OR THE MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE INVENTION OR PRODUCT, OR THAT THE USE OF THE LICENSED

PRODUCT WILL NOT INFRINGE ANY PAATENT, COPYRIGHTS, TRADEMARKS OR OTHER RIGHTS. LICENSOR SHALL NOT BE LIEABLE FOR ANY DIRECT, CONSEQUENTIAL, OR OTHER DAMAGES SUFFERED BY ANY LICENSEE OR ANY THIRD PARTIES RESULTING FROM THE USE, PRODUCTION, MANUFACTURE, SALE, LEASE, CONSUMPTION, OR ADVERTISEMENT OF THE PRODUCT.

7.4 The parties acknowledge that LICENSOR has licensed U.S. patent application serial no. 10/923.373 to a third party.

7.5 The provisions of this Section shall continue beyond the termination of this Agreement.

8. ROYALTIES:

8.1 In consideration of the license herein granted, LICENSEE shall pay royalties to LICENSOR as follows:

(a) LICENSEE agrees to pay LICENSOR a license issue fee of $150,000 within thirty (30) days of the Effective Date. LICENSOR agrees that $50,000 of which will go to support Dr. Eckhart Podack's research at the University of Miami to further advance the Patent Rights.

(b) LICENSEE agrees to pay LICENSOR minimum royalty payments as follows:

Payment	Year
$10,000	2010
$10,000	2011
$10,000	2012
$20,000	2013 and every year thereafter on the same date, for the life of this Agreement.

The minimum royalty shall be paid for each year in which this Agreement is in effect. The minimum royalty payment shall be due on or before May 31 of the calendar year. Any minimum royalty paid in a calendar year will be credited against the earned royalties for that calendar year. It is understood that the minimum royalties will be applied to earned royalties on a calendar year basis. and that sales of Licensed Products and or Licensed Processes requiring the payment of earned royalties made during a prior or subsequent calendar year shall have no effect on the annual minimum royalty due LICENSOR for other than the same calendar year in which the royalties were earned.

(c) LICENSEE agrees to pay to LICENSOR as earned royalties a royalty calculated as a percentage of LICENSEE's Net Sales of Licensed Products which, if not for this Agreement, would infringe the Patent Rights, in accordance with the terms and conditions of this Agreement, the royalty is deemed earned as of the earlier of the date the Licensed Product and/or Licensed Process is actually sold and paid for, the date and invoice is sent by LICENSEE, or the date a Licensed Product and/or Licensed Process is transferred to a third party for any promotional reasons. The royalty shall remain fixed while this Agreement is in effect at a rate of five percent (5%) of Net Sales.

(d) For a sublicense. LICENSEE shall pay to LICENSOR an amount equal to twenty-percent (20%) of what LICENSEE would have been required to pay to LICENSOR had LICENSEE sold the amount of Licensed Products sold by the Sublicensee. In addition, if LICENSEE receives any fees, minimum royalties, or other payments in consideration for any rights granted under a Sublicense, and such payments are not based directly upon the amount or value of Licensed Products or Licensed Processes sold

by the Sublicensee nor represent payment of costs to LICENSEE for a development program which LICENSEE is obligated to perform under such sublicense, then LICENSEE shall pay LICENSOR twenty percent (20%) of such payments.

(e) In addition to all other payments required under this Agreement, LICENSEE agrees to pay LICENSOR milestone payments as follows:

Payment	Event
$250,000	By the earlier of May 31, 2017 or the approval of an NDA for a lung cancer vaccine or for a cancer vaccine other than lung cancer vaccine covered by the Patent Rights

Furthermore, LICENSEE agrees to hire or retain a regulatory expert no later than September 1, 2008 to handle the documentation and dealing with FDA on all regulatory and clinical matters regarding the Licensed Patents. Licensed Product and/or Licensed Process, to the extent permitted by the rules of FDA and provisions governing IND.

(f) In the event that licenses from third parties are required by LICENSEE in order to make, have made, use, sell, offer to sell or import any particular Licensed Product or Licensed Process, then the earned royalty which LICENSEE is obligated to pay LICENSOR under this Agreement shall be reduced by twenty cents ($0.20) for each one dollar ($1.00) in royalties which Licensee is obligated to pay to third parties under such licenses, further provided, however, that the royalties payable to LICENSOR under this Section shall not be reduced to less than two and one-half percent (2.5%) of the applicable Net Sales.

8.2 All payments shall be made hereunder in U.S. Dollars: provided however. that if the proceeds of the sales upon which such royalty payments are based are received by the LICENSEE in a foreign currency or other form that is not convertible or exportable in dollars. and the LICENSEE does not have ongoing business operations or bank accounts in the country in which the currency is not convertible or exportable. the LICENSEE shall pay such royalties in the currency of the country in which such sales were made by depositing such royalties in LICENSOR'S name in a bank designated by LICENSOR in such country. Royalties in dollars shall be computed by converting the royalty in the currency of the country in which the sales were made at the exchange rate for dollars prevailing at the close of the business day of the LICENSEE'S quarter for which royalties are being calculated as published. the following day in the Wall Street Journal (or. if it ceases to be published. a comparable publication to be agreed upon from time to time by the parties). and with respect to those countries for which rates are not published in the Wall Street Journal. the exchange rate fixed for such date by the appropriate United States governmental agency.

8.3 In the event the royalties set forth herein are higher than the maximum royalties permitted by the law of regulations of a particular country. the royalty payable for sales in such country shall be equal to the maximum permitted royalty under such law or regulation.

8.4 In the event that any taxes. withholding or otherwise. are levied by any taxing authority in connection with accrual or payment of any royalties payable to LICENSOR under this Agreement. the LICENSEE shall have the right to pay such taxes to the local tax authorities on behalf of LICENSOR and the payment to LICENSOR of the net amount due after reduction by the amount of such taxes. shall fully satisfy the LICENSEE'S royalty obligations under this Agreement.

8.5 As partial consideration for the license granted pursuant to this Agreement LICENSEE shall issue to LICENSOR a fully paid. nonassessable number of common shares equal to eight percent (8%) of the total number of LICENSEE common shares issued and outstanding. LICENSEE shall affect the issuance of such shares by

concurrent execution of an appropriate Stockholders Agreement and Investor Rights Agreements, the terms of which are incorporated by reference herein.

9. DILIGENCE:

9.1 LICENSEE shall use efforts at least sufficient to meet the requirements of the Bayh-Dole Act to manufacture, market and sell the Licensed Products in the Territory, and to create a demand for the Products.

9.2 LICENSEE agrees to submit reports, upon LICENSOR's request but no more than every six months as to its efforts to develop markets for the licensed Products. Such reports shall include assurance by LICENSEE of its intent to actively develop commercial embodiments of Licensed Products and a summary of its efforts in this regard.

9.3 Unless LICENSEE has introduced a Licensed Product into the commercial marketplace in one of the three major markets (European Union. Japan and the United States) or has made best efforts (for avoidance of doubt it will be presumed that LICENSEE has used best efforts if it has a Licensed Product in a phase III clinical trial) to achieve the same prior to December 31, 2020 LICENSEE agrees that LICENSOR may terminate this Agreement by providing LICENSEE ninety (90) advanced written notice of its intent to terminate this Agreement. In the event the payment of earned royalties, once begun and if nay are due, ceases for more than two (2) calendar quarters, and LICENSEE fails to cure this breach within two (2) months after being provided written notice of same. LICENSOR may terminate this Agreement.

10. REPORTS AND RECORDS

10.1 Commencing one (1) year after the first sale, the LICENSEE shall furnish to LICENSOR a report in writing specifying during the preceding calendar quarter (a) the number or amount of Licensed Products sold hereunder by LICENSEE, and/or its Affiliates or Sublicensees, (b) the total billings for all Licensed Products sold, (c) deductions as applicable in paragraph 1.6. (d) total royalties due, (e) names and addresses of all Sublicensees. Such reports shall be due within forty-five (45) days following the last day of each calendar quarter in each year during the term of this Agreement. Each

Such report shall be accompanied by payment in full of the amount due LICENSOR in United States dollars calculated in accordance with Section 8.1 hereof.

10.2 For a period of three (3) years from the date of each report pursuant to Paragraph 10.1. LICENSEE shall keep records adequate to verify each such report and accompanying payment made to LICENSOR under this Agreement, and an independent certified public accountant or accounting firm selected by LICENSOR and acceptable to LICENSEE may have access, on reasonable notice during regular business hours, not to exceed once per year, to such records to verify such reports and payments. Such accountant or accounting firm shall not disclose to LICENSOR any information other than that information relating solely to the accuracy of, or necessity for, the reports and payments made hereunder. The fees and expense of the certified public accountant or accounting firm performing such verification shall be borne by LICENSOR unless in the event that the audit reveals an underpayment of royalty by more than ten (10%) percent. the cost of the audit shall be paid by LICENSEE.

10.3 LICENSOR shall promptly inform LICENSEE of all Improvements (including results of all clinical trials) made during the term of the Agreement. LICENSEE shall keep each Improvement confidential for a period of ninety (90) days following its disclosure to LICENSEE in order to provide sufficient time to file a patent application on said Improvement.

11. MARKING AND STANDARDS:

11.1 Prior to the issuance of patents on the Invention(s), LICENSEE agrees to mark and have sublicensees mark Licensed Products (or their containers or labels) made, sold, or otherwise disposed of by it under the license granted in this Agreement with a proper patent notice as specified under the patent laws of the United States.

11.2 LICENSEE further agrees to maintain satisfactory standards in respect to the nature of the Licensed Products manufactured and/or sold by LICENSEE. LICENSEE agrees that all Licensed Products manufactured and/or sold by it shall be of a quality which is appropriate to products of the type here involved. LICENSEE agrees that similar provisions shall be included in sublicenses of all tiers.

12. ASSIGNMENT:

12.1 This Agreement is not assignable by LICENSEE or by operation of law without prior written consent of LICENSOR at its sole discretion except that LICENSEE shall have the right to transfer or assign this Agreement to any entity which acquires all or substantially all of LICENSEE's assets provided that LICENSEE fives LICENSOR thirty (30) days advance written notice of the intended assignment and considers in good faith any of LICENSOR's concerns relating to the intended assignment. The foregoing sentence shall not be construed to require LICENSEE to obtain LICENSOR's approval of any Sublicensee.

12.2 This Agreement shall extend to and be binding upon the successors and legal representatives and permitted assigns of LICENSOR and LICENSEE.

13. NOTICE:

Any notice, payment, report or other correspondence (hereinafter collectively referred to as "correspondence") required or permitted to be given hereunder shall be mailed by certified mail or delivered by hand to the party to whom such correspondence is required or permitted to be given hereunder. If mailed, any such notice shall be deemed to have been given when mailed as evidenced by the postmark at point of mailing. If delivered by hand, any such correspondence shall be deemed to have been given when received by the party to whom such correspondence is given, as evidenced by written and dated receipt of the receiving party.

All correspondence to LICENSEE shall be addressed as follows:

Mr. Jeffrey Wolf
CEO
Heat Biologics, Inc.
Atlantic Center
119 Washington Avenue. Suite 401
Miami Beach. FL 33139

All correspondence to LICENSOR shall be addressed, in duplicate, as follows:

FOR NOTICE:

Vice President
Business Affairs
327 Max Orovitz Building
1507 Levante Avenue
Coral Gables. Florida 33124-1432
Attention: Mr. Alan J. Fish

FOR NOTICE AND PAYMENT:

UM Innovation
Office of Special Programs and Resource Strategy
1150 NW 14th Street. Suite 310
Miami. FL 33136

Either party may change the address to which correspondence to it is to be addressed by notification as provided herein.

14. TERMINATION:

14.1 A party shall have the right to terminate this Agreement if the other party commits (a) a material breach of an obligation under this Agreement or (b) provides a false report, and continues in breach for more than ninety (90) days after receiving unambiguous written notice of such breach or false report: however, in the event LICENSEE breaches its obligations under Section five (5) or eight (8) above. LICENSEE shall have thirty (30) days after receiving written notice to cure such breach, after which LICENSOR shall have the right to terminate this Agreement. Such termination shall be

effective upon further written notice to the breaching party after failure by the breaching party to cure such default.

14.2 The license and rights granted in this Agreement have been granted on the basis of the special capability of LICENSEE to perform research and development work leading to the manufacture and marketing of the Products. Accordingly, LICENSEE covenants and agrees that in the event any proceedings under the Bankruptcy Act or any amendment thereto, be commenced by or against LICENSEE, and, if against LICENSEE, said proceedings shall not be dismissed with prejudice before either adjudication in bankruptcy of the confirmation of a composition, arrangement, or plan of reorganization, or in the event LICENSEE shall be adjudged insolvent or make an assignment for the benefit of its creditors, or if a writ of attachment or execution be levied upon the license hereby created and not be released or satisfied within ten (10) days thereafter. or if a receiver be appointed in any proceeding or action to which LICENSEE is a party with authority to exercise an of the rights or privileges granted hereunder and such receiver be so discharged within a period of forty-five (45) days after his appointment, any such event shall be deemed to constitute a breach of this Agreement by LICENSEE and, LICENSOR, at the election of LICENSOR, but not otherwise, ipso facto, and without notice or other action by LICENSOR, shall terminate this Agreement and all rights of LICENSEE hereunder and all rights of any and all persons claiming under LICENSEE.

14.3 LICENSEE shall have the right to terminate this Agreement by providing ninety (90) days written notice of its intent to terminate this Agreement to LICENSOR.

14.4 Any termination of this Agreement shall be without prejudice to LICENSOR's right to recover all amounts accruing to LICENSOR prior to such termination and cancellation. Except as otherwise provided, should this Agreement be terminated for any reason, LICENSEE shall have no rights, express of implied, under any patent property which is the subject matter of this Agreement, nor have the right to recover any royalties paid LICENSOR hereunder. Upon termination, LICENSEE shall have the right to dispose of Licensed Products then in their possession and to complete existing contracts for such products, so long as contracts are completed within six (6)

months from the date of termination, subject to the payment of royalties to LICENSOR as provided in Section 8 hereof.

15. CERTIFICATE OF INSURANCE:

15.1 LICENSEE shall maintain liability insurance coverage for the Product in the amount of three million dollars ($3,000,000) and at no expense to LICENSOR. LICENSEE shall name LICENSOR as an additional insured. Within fourteen (14) days of execution of this Agreement, LICENSEE shall provide a certificate of insurance to LICENSOR. LICENSEE agrees to carry and keep in force, at its expense, general liability insurance with limits not less than $1,000,000 per person and $3,000,000 aggregate to cover liability for damages to property of any person. Such insurances shall contain an endorsement naming the University of Miami as an additional insured with respect to this Agreement. Insurance Certificates should be sent to the University of Miami upon execution of this Agreement and on the anniversary of that date every year thereafter. Office of Technology Transfer, 1475 NW 12th Avenue, Sewell Building Room 2012, Miami. FL 33136.

15.2 Licensee shall not cancel such insurance without thirty (30) days prior notice to Licensor. Such cancellation shall be cause for termination.

15.3 The terms of this provision shall extend beyond termination of the agreement.

16. USE OF NAME:

LICENSEE shall not use the name of the University of Miami, or any of its employees, or any adaptation thereof, in any publication, including advertising, promotional or sales literature without the prior written consent of Mr. Alan J. Fish, Vice President of Business Services, 327 Max Orovitz Bldg., 1507 Levante Avenue, Coral Gables FL 33124-1432. LICENSOR shall notify LICENSEE within ten (20) days of being provided notice of its decision regarding each instance of intended use of name(s) names(s). The absence of a response by LICENSOR within this ten (10) day period shall

constitute implied permission of LICENSEE to use such name in that instance. Any press releases concerning this Agreement must be mutually agreed upon by the parties.

17. GOVERNING LAW:

This Agreement shall be governed by and interpreted in accordance with the laws of the State of Florida.

18. CAPTIONS:

The captions and paragraph heading of this Agreement are solely for the convenience of reference and shall not affect its interpretation.

19. SEVERABILITIY:

Should any part or provision of this Agreement be held unenforceable or in conflict with the applicable laws or regulations of any jurisdiction, the invalid or unenforceable part or provision shall be replaced with a provision which accomplishes, to the extent possible, the original business purpose of such part or provision in valid and enforceable manner, and the remainder of the Agreement shall remain binding upon the parties hereto.

20. SURVIVAL:

20.1 The provisions of Sections 5. 6 and 7 shall survive the termination or expiration of this Agreement and shall remain in full force and effect.

20.2 The provisions of this Agreement which do not survive termination or expiration hereof (as the case may be) shall, nonetheless, be controlling on, and shall be used in construing and interpreting, the rights and obligations of the parties hereto with regard to any dispute, controversy or claim which may arise under, out of, in connection with, or relating to this Agreement.

21. AMENDMENT:

No amendment or modification of the terms of this Agreement shall be binding on either party unless reduced to writing and signed by an authorized officer of the party to be bound.

22. WAIVER:

No failure or delay on the part of a party in exercising any rights hereunder will operate as a waiver of, or impair, any such right. No single or partial exercise of any such right will preclude any other or further exercise thereof or the exercise of any other right. No waiver of any such right will be deemed a waiver of any other right hereunder.

23. CONFIDENTIALITY:

Each Party shall maintain all information of the other Party which is treated by such other Party as proprietary or confidential (referred to herein as "Confidential Information") in confidence, and shall not disclose. divulge or otherwise communicate such confidential information to others, or use it for any purpose, except pursuant to, and in order to carry out, the terms and objectives of this Agreement, and each party hereby agrees to exercise every reasonable precaution to prevent and restrain the unauthorized disclosure of such confidential information by any of its Affiliates, directors, officers, employees, consultants, subcontractors, sublicensees or agents. LICENSEE's Confidential Information includes but is not limited to the development plan, development reports and all other financial and business reports, strategies, and agreements (including sublicenses) of LICENSEE. The parties agree to keep the terms of this Agreement confidential, provided that each party may disclose this Agreement to their authorized agents and investors who are bound by similar confidentiality provisions. Notwithstanding the foregoing, Confidential Information of a party shall not include information which: (a) was lawfully known by the receiving party prior to disclosure of such information by the disclosing party to the receiving party: (b) was or becomes generally available in the public domain, without the fault of the receiving party: (c) is subsequently disclosed to the receiving party by a third party having a lawful right to make such disclosure: (d) is required by law, rule, regulation or legal process to be disclosed, provided that the receiving party making such disclosure shall take all reasonable steps to restrict and maintain to the extent possible confidentiality of such disclosure and shall provide reasonable notice to the other party to allow such party the opportunity to oppose the required disclosure: or (e) has been independently developed by employees

or others on behalf of the receiving party without access to or use of disclosing party's information as demonstrated by written record. Each party's obligations under this Section shall extend for a period of five (5) years from termination or expiration of this Agreement.

24. UNIVERSITY RULES AND REGULATIONS:

LICENSEE understands and agrees that University of Miami personnel who are engaged by LICENSEE, whether as consultants, employees or otherwise, or who possess a material financial interest in LICENSEE, are subject to the University of Miami's rule regarding outside activities and financial interests, and the University of Miami's Intellectual Property Policy. Any term or condition of an agreement between LICENSEE and such University of Miami personnel which seeks to vary or override such personnel's obligations to the University of Miami may not be enforced against such personnel, or the University of Miami, without the express written consent of an individual authorized to vary or waive such obligations on behalf of the University of Miami.

25. ENTIRE AGREEMENT:

This Agreement constitutes the entire agreement between the parties hereto respecting the subject matter hereof, and supercedes and terminates all prior agreements respecting the subject matter hereof, whether written or oral, and may be amended only by an instrument in writing executed by both parties hereto.

26. CONTRACT FORMATION AND AUTHORITY:

LICENSOR and LICENSEE each warrant and represent that the persons signing this Agreement on its behalf have authority to execute this Agreement and that the execution of this Agreement does not violate any law. rule or regulation applicable to it or any contract or other agreement by which it is bound.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers thereunto duly authorized to be effective as of the Effective Date.

[SIGNATURE PAGE FOLLOWS]

HEAT BIOLOGICS, INC.

Date: July 11, 2008

By: /s/ Jeffrey Wolf

Jeffrey Wolf
Name

President
Title

UNIVERSITY OF MIAMI

Date: July 11, 2008

By: /s/ Bart Chernow

Bart Chernow
Name

Vice President/U of Miami
Title

APPENDIX A – "Podack Cancer Vaccine (UM9XX7-14)"

A cell-based vaccine for treating cancer patients utilizes human cancer cells that have been engineered to secrete gp96. The presently preferred version of the vaccine uses the AD100 human lung adrenocarcinoma cell line transfected with constructs that encode III.A-AI and gp96-Ig (heat shock protein gp96 fused to Fe region of IgGI). In a presently preferred protocol, NSCLC patients are intradermermally administered several injections of $5x10^7$ vaccine cells each at two week intervals.

LICENSE AGREEMENT

This License Agreement (the "Agreement") is entered into and made effective the18 day of Feb, 2011 (the "Effective Date") between UNIVERSITY OF MIAMI and its School of Medicine, whose principal place of business is at 1600 N.W. 10th Avenue, Miami, Florida 33136 (hereinafter referred to as "LICENSOR") and HEAT BIOLOGICS 1, INC., a Delaware corporation, whose principal place of business is at Atlantic Center, 119 Washington Avenue, Suite 401, Miami Beach, FL 33139 (hereinafter referred to as "LICENSEE").

WITNESSETH

WHEREAS, HEAT BIOLOGICS, Inc., a Delaware Corporation ("HEAT"') is the majority shareholder of the LICENSEE, With effect of July 11, 2008, HEAT and the LICENSOR have entered into a license agreement regarding the Podack Cancer Vaccine (UM97-14) which was later assigned to the LICENSEE (hereinafter also referred to herein as the "Podack Cancer Vaccine License Agreement");

WHEREAS, LICENSOR is the sole owner of the technology and product identified as the Heat Shock Protein GP96 Vaccination (UMD-107) technology;

WHEREAS, LICENSOR is the sole owner of the patent rights relating to the Heat Shock Protein GP96 Vaccination (UMD-107) technology;

WHEREAS, LICENSOR wishes to exclusively license to LICENSEE the Heat Shock Protein GP96 Vaccination (UMD-107) technology and patent rights related thereto; and

WHEREAS, LICENSEE desires to acquire an exclusive license from LICENSOR to the Heat Shock Protein GP96 Vaccination (UMD-107) technology and patent rights related thereto for the purpose of commercially marketing the Heat Shock Protein GP96 Vaccination (UMD-107) technology.

NOW THEREFORE, For these and other valuable considerations, the receipt of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS:

1.1 "Affiliate" shall mean any corporation or other business entity controlled by, controlling or under common control with LICENSEE. For this purpose, "control" shall mean direct or indirect beneficial ownership of at least a fifty percent (50%) of the voting stock of, or at least a fifty percent (50%) interest in the income of such corporation or other business entity, or such other relationship as in fact, constitutes actual control.

1.2 "Sublicensee" as used in this Agreement shall mean any third party to whom LICENSEE has granted a license to make, have made, use and/or sell the Product under the Patent Rights, provided said third party has agreed in writing with LICENSEE to accept the conditions and restrictions agreed to by LICENSEE in this Agreement.

1.3 "Patent Rights" shall mean the following United States Patent applications: U.S. patent application serial number US 61/033,425 entitled "Heat Shock Protein GP96 Vaccination and Methods of Using Same" and filed on 20 March 2008; PCT patent application number PCT/US2009/001727 entitled "bleat Shock Protein GP96 Vaccination and Methods of Using Same" and filed on 19 March 2009; all United States patents and foreign patents and patent applications based on these U.S. applications; all divisionals, continuations of the foregoing; and those claims in continuations-in-part of the foregoing that are described in sufficient detail in U.S. patent application serial number US 61/033,425 or PCT patent application number PCT/US2009/001727 to meet the requirements of 35 U.S.C. 112¶1; and any re-examinations or reissues of the foregoing.

1.4 "Licensed Product" shall mean any product or part thereof which:

(a) is covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or a pending claim contained in the Patent Rights;

(b) is manufactured by using a process which is covered in whole or in part by an issued, unexpired, and. not adjudicated unenforceable claim or a pending claim contained in the Patent Rights; or

(c) incorporates or comprises the Licensed Materials
,

1.5 "Licensed Process" shalt mean any process practiced in a country in which said process is covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or pending claim contained in the Patent Rights.

1.6 "Net Sales" shall mean the sum of all amounts invoiced on account of sale or use of Licensed Products and Licensed Processes by LICENSEE and its Affiliates or any Sublicensees to non-affiliated third party purchasers or users of Licensed Products or Licensed Processes, less (a) discounts to purchasers in amounts customary in the trade, (b) amounts for transportation or shipping charges to purchasers, (c) credits for returns, allowances or trades, and (d) taxes and duties levied on the sale or use of Licensed Products, whether absorbed by Licensee or paid by the purchaser.

1.7 "Territory" shall mean worldwide,

1.8 "Field of Use" shall mean all human healthcare and research applications.

1.9 "Licensed Materials" shall mean LICENSOR's biological materials in the possession of Dr. Eckhard Podack's laboratory at the Effective Date that are covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or a pending claim contained in the Patent Rights.

2. GRANT:

2.1 LICENSOR hereby grants to LICENSEE an exclusive license, subject to any rights of the U.S. government specified in section 4 below, in the Territory for the Field of Use, with the right to sublicense, under the Patent Rights, to make, have made for its own use and sale, use and sell Licensed Products and Licensed Processes.

2.2 LICENSOR also hereby grants to LICENSEE an exclusive license to make, use, and/or sell the Licensed Materials in the Territory for the Field of Use. At LICENSEE's request, LICENSOR shall provide LICENSEE with a reasonable amount of

Licensed Materials so that LICENSEE may reproduce such Licensed Materials for the purpose of making, selling, or using Licensed Products or Licensed Processes.

2.3 LICENSOR reserves to itself the non-transferable right to make and use Licensed Materials, Licensed Products arid/or Licensed Processes solely for its internal, non-commercial: scientific research, not-for-profit clinical research, and educational purposes. Except to the extent required by law, LICENSOR shall not transfer the Licensed Materials for the purpose of making the Licensed Materials to any third party without first obtaining, in a Material Transfer Agreement, the written agreement of that third party to not use or further distribute such materials for commercial purposes, LICENSOR shall notify LICENSEE in writing of any third party request for such materials and provide LICENSEE at least ten (10) days to object to such request on the basis that such transfer would interfere with the objectives of this Agreement.

3. TERM:

The license granted by this Agreement shall be exclusive in the licensed Field of Use for a terra commencing as of the Effective Date of this Agreement and continue until the expiration, on a country by country basis, of all of the Patent Rights.

4. UNITED STATES LAWS:

4.1 Licensee understands that the Licensed Subject Matter may have been developed under a funding agreement with the Government of the United States of America and, if so, that the Government may have certain rights relative thereto. This Agreement is explicitly made subject to the Government's rights under any agreement and any applicable law or regulation. If there is a conflict between an agreement, applicable law or regulation and this Agreement, the terms of the Government agreement, applicable law or regulation shall prevail.

Specifically, This Agreement is subject to all of the terms and conditions of Title 35 United States Code sections 200 through 204, including an obligation that Licensed Product(s) sold or produced in the United States be "manufactured substantially in the United States," and LICENSEE agrees to take all

reasonable action necessary on its part as licensee to enable LICENSOR to satisfy its obligation thereunder, relating to Invention(s).

4.2 It is understood that LICENSOR is subject to United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities (including the Arms Export Control Act, as amended and the Export Administration Act of 1979), and that its obligations hereunder are contingent on compliance with applicable United States export laws and regulations. The transfer of certain technical data and commodities may require a license from the cognizant agency of the United States Government and/or written assurances by LICENSEE that LICENSEE shall not export data or commodities to certain foreign countries without prior approval of such agency. LICENSOR neither represents that a license shall not be required nor that, if required, it shall be issued.

5. PATENT PROTECTION AND INFRINGEMENT:

5.1 LICENSOR, during the term of this Agreement, is responsible for the filing and the prosecution of all patents and applications where LICENSEE shall reimburse LICENSOR for all payments within thirty (30) days of invoice. LICENSOR shall keep LICENSEE fully apprised on the status of all Patent Rights and shall provide LICENSEE the opportunity to make comments and suggestions on all decisions relating to the prosecution of the Patent Rights (e.g., office actions). LICENSOR shall in good faith consider incorporating such comments and suggestions unless such incorporation would be contrary to the purposes of this Agreement.

5.2 LICENSEE shall promptly notify LICENSOR in writing of any claim of Patent Rights infringement which may be asserted against LICENSEE or LICENSOR, its Affiliates and any sublicensees because of the manufacture, use, promotion and sale of Products.

5.3 LICENSEE reimburse LICENSOR past patent costs and shall pay to LICENSOR all future patent fees within thirty (30) days after the LICENSEE has received the invoice from the LICENSOR.

5.4 LICENSEE will defend, indemnify and hold harmless LICENSOR, its trustees, officers, directors, employees and its Affiliates against any and all judgments

and damages arising from any and all third party claims of Patent Rights infringement which may be asserted against LICENSOR, and Affiliates because of the manufacture, use, promotion and sale of Licensed Products except for the use of Licensed Materials, Licensed Products and/or Licensed Processes by Licensor pursuant to section 2.3 of this Agreement. LICENSEE will bear all costs and expenses incurred in connection with the defense of any such claims: or as a result of any settlement made or judgment rendered on the basis of such claims. LICENSOR shall have no further liability to LICENSEE for any loss or damages LICENSEE may incur as a result of the invalidity of LICENSOR'S Patent Rights. LICENSOR will have the right, but not the obligation to retain counsel at its expense in connection with any such claim. LICENSOR at its option, shall have the right, within thirty days after commencement of such action, to intervene and take over the sole defense of the action at its own expense.

5.5 Upon learning of any infringement of Patent Rights by third parties in any country, LICENSEE and LICENSOR will promptly inform each other, as the case may be, in writing of that fact and will supply the other with any available evidence pertaining to the infringement. LICENSEE at; its own expense, shall have the option to take whatever steps are necessary to stop the infringement at its expense and recover damages therefore. If requested by LICENSEE, LICENSOR will join in any legal actions enforcing or defending the Patent Rights against third parties deemed necessary or advisable by LICENSEE to prevent or seek damages, or both, from the infringement of the Patent Rights provided that LICENSEE funds all costs associated with such actions, using counsel mutually acceptable to LICENSEE and LICENSOR, and indemnifies and holds LICENSOR harmless with respect to any claims or damages made against or sustained by LICENSOR in connection with such involvement. In the event that LICENSOR and LICENSEE mutually bring suit, costs and expenses shall be borne by LICENSEE, and any recovery shall be shared by the parties as if such infringing sales were Net Sales. In any event, no settlement, consent, judgment or other voluntary final disposition of the suit may be entered into without the consent of LICENSOR, which shall not be unreasonably withheld. In the event LICENSEE does not take steps to stop the infringement, LICENSOR, shall have the right to bring suit at its own expense. In such event, financial recoveries will be entirely retained by LICENSOR.

5.6 LICENSOR shall have no responsibility with respect to LICENSEE'S own trademarks and tradename, and LICENSEE in respect to the use thereof will defend; indemnify and hold harmless LICENSOR against any and all third party claims.

6. INDEMNIFICATION:

6.1 LICENSEE agrees to release, indemnify and hold harmless the LICENSOR, its trustees, officers, faculty, employees and students against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including reasonable attorney's fees through the appellate levels) which may be brought against LICENSOR, its trustees, officers, faculty, employees or students as a result of or arising out of any negligent act or omission of LICENSEE, its agents, or employees, or arising out of use, production, manufacture, sale, lease, consumption or advertisement by LICENSEE or any Sublicensee of any Licensed Product, Licensed Process, or Licensed Materials covered by this Agreement.

6.2 LICENSOR agrees to release, indemnify and hold harmless the LICENSEE, its directors, officers, employees, Affiliates, Sublicensees, and agents against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including reasonable attorney's fees through the appellate levels) which may be brought against LICENSEE, its directors, officers, employees, Affiliates, Sublicensees, and/or agents as a result of or arising out of any willful misconduct, or negligent act or omission of LICENSOR.

6.3 This Agreement to reimburse and indemnify under the circumstances set forth above shall continue after the termination of this Agreement.

7. REPRESEN'TATIONS WARRA.NTIES:

7.1 LICENSOR hereby represents and warrants to LICENSEE that LICENSOR owns the Patent Rights and Licensed Materials and has not assigned any rights therein or given any license or other rights thereto to any party other than LICENSEE.

7.2 LICENSOR hereby represents and warrants that, although it has not conducted any investigation, it has no knowledge of any patents or patent applications, other than the Patents Rights, that contain a claim that would be infringed by the sale or use of a Licensed Product, Licensed Process, .or Licensed Materials.

7.3 EXCEPT AS PROVIDED ABOVE, LICENSOR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND HEREBY DISCLAIMS ALL SUCH WARRANTIES, AS TO ANY MATTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, THE CONDITION OF ANY INVENTION(S) OR PRODUCT, WHETHER TANGIBLE OR INTANGIBLE, LICENSED UNDER THIS AGREEMENT; OR THE MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE INVENTION OR PRODUCT; OR THAT THE USE OF THE LICENSED PRODUCT WILL NOT INFRINGE ANY PATENT, COPYRIGHTS, TRADEMARKS, OR OTHER RIGHTS. OTHER THAN FOR BREACH OF T HE ABOVE WARRANTIES, OR ITS OWN NEGLIGENT ACTS OR OMISSIONS, LICENSOR SHALL NOT BE LIABLU FOR ANY DIRECT, CONSEQUENTIAL, OR OTHER DAMAGES SUFFERED BY ANY LICENSEE OR ANY THIRD PARTIES RESULTING FROM THE USE, PRODUCTION, MANUFACTURE, SALE, LEASE, CONSUMPTION, OR ADVERTISEMENT OF THE PRODUCT.

7.4 EXCEPT EXPLICITLY PROVIDED FOR HEREIN, LICENSEE DOES NOT MAKE ANY OTHER REPRESENTATIONS OR GIVE ANY OTHER EXPLICIT OR IMPLICIT WARRANTIES. TO THE FULLEST EXTENT PERMITTED BY LAW LICENSEE HEREBY DISCLAIMS ANY OTHER REPRESENTATIONS AND WARRANTIES.

7.5 The provisions of this Section shall continue beyond the termination of this Agreement.

8. ROYALTIES:

8.1 In consideration of the license herein granted, LICENSEE shall pay royalties to LICENSOR as follows:

(a) LICENSEE agrees to pay to LICENSOR as earned royalties a royalty calculated as a percentage of LICENSEE's Net Sales of

Licensed Products which, if not for this Agreement, would infringe the Patent Rights, in accordance with the terms and conditions of this Agreement. The royalty is deemed earned as of the earlier of the date the Licensed Product and/or Licensed Process is actually sold and paid for, the date an invoice is sent by LICENSEE, or the date a Licensed Product and/or Licensed Process is transferred to a third party for any promotional reasons. The royalty shall remain fixed while this Agreement is in effect at a rate of five percent (5%) of Net Sales.

(b) For a sublicense, LICENSEE shall pay to LICENSOR an amount equal to twenty-percent (20%) of what LICENSEE would have been required to pay to LICENSOR had LICENSEE sold the amount of Licensed Products sold by the Sublicensee. In addition, if LICENSEE receives any fees, minimum royalties, or other payments in consideration for any rights granted under a Sublicense, and such payments are not based directly upon the amount or value of Licensed Products or Licensed Processes sold by the Sublicensee nor represent payment of costs to LICENSEE for a development program which LICENSEE is obligated to perform under such sublicense,, then LICENSEE shall pay LICENSOR twenty percent (20%) of such payments.

(c) In the event that licenses from third parties are required by LICENSEE in order to make, have made, use, sell, offer to sell or import any particular Licensed Product or Licensed Process, then the earned royalty which LICENSEE is obligated to pay LICENSOR under this Agreement shall be reduced by twenty cents ($0.20) for each one dollar ($1.00) in royalties which Licensee is obligated to pay to third parties under such licenses, further provided, however, that the royalties payable to LICENSOR under this Section shall not be reduced to less than two and one-half percent (2.5%) of the applicable Net Sales.

(d) In the event that LICENSEE requires more than one license from the LICENSOR to make, have made for its use, sell, offer to sell or import any particular Licensed Product or Licensed Process as defined in sections 1.4 and 1.5, respectively, of this Agreement, then the combined earned royalties shall not exceed 5% of Net Sales and any sublicense fees shall not exceed twenty-percent (20%) of what LICENSEE would have been required to pay to LICENSOR had LICENSEE sold the amount of Licensed Products sold by the Sublicensee.

8.2 All payments shall be made hereunder in U.S. dollars; provided however, that if the proceeds of the sales upon which such royalty payments are based are received by the LICENSEE in a foreign currency or other form that is not convertible or exportable in dollars, and the LICENSEE does not have ongoing business operations or bank accounts in the country in which the currency is not convertible or exportable, the LICENSEE shall pay such royalties in the currency of the country in which such sales were made by depositing such royalties in LICENSER'S name in a bank designated by LICENSOR in such country. Royalties in U.S. dollars shall be computed by converting the royalty in the currency of the country in which the sales were made at the exchange rate for U.S. dollars prevailing at the close of the business day of the LICENSEE'S quarter for which royalties are being calculated as published the following day in the Wall Street Journal (or, if it ceases to be published, a comparable publication to be agreed upon from time to time by the parties), and with respect to those countries for which rates are not published in the Wall Street Journal, the exchange rate fixed for such date by the appropriate United States governmental agency.

8.3 In the event the royalties set forth herein are higher than the maximum royalties permitted by the law or regulations of a particular country, the royalty payable for sales in such country shall be equal to the maximum permitted royalty under such law or regulation.

8.4 In the event that any taxes, withholding or otherwise, are levied by any taxing authority in connection with accrual or payment of any royalties payable to LICENSOR under this Agreement, the LICENSEE shall have the right to pay such taxes

to the local tax authorities, on behalf of LICENSOR and the payment to LICENSOR of the net amount due after reduction by the amount of such taxes, shall fully satisfy the LICENSEE'S royalty obligations under this Agreement.

9. DILIGENCE:

9.1 LICENSEE shall use efforts at least sufficient to meet the requirements of the Bayh-Dole Act to manufacture, market and sell the Licensed Products in the Territory, and to create a demand for the Products.

9.2 LICENSEE agrees to submit reports, upon LICENSOR's request but no more than every 6 months as to its efforts to develop markets for the Licensed Products. Such reports shall include assurance by LICENSEE of its intent to actively develop commercial embodiments of Licensed Products and a summary of its efforts in this regard.

9.3 Unless LICENSEE has introduced a Licensed Product into the commercial marketplace in one of the three major markets (European Union, Japan and the United States) or has made best efforts (for avoidance of doubt it will be presumed that LICENSEE has used best efforts if it has a Licensed Product in a phase III clinical trial) to achieve the same prior to December 31, 2020 LICENSEE agrees that LICENSOR may terminate this Agreement by providing LICENSEE ninety (90) advanced written notice of its intent to terminate this Agreement. In the event the payment of earned royalties, once begun and if any are due, ceases for more than two (2) calendar quarters, and LICENSEE fails to cure this breach within two (2) months after being provided written notice of same, LICENSOR may terminate this Agreement.

10. REPORTS AND RECORDS:

10.1 Commencing one (1) year after the first sale, the LICENSEE shall furnish to LICENSOR a report in writing specifying during the preceding calendar quarter (a) the number or amount of Licensed Products sold hereunder by LICENSEE, and/or its Affiliates or Sublicensees, (b) the total billings for all. Licensed Products sold, (c) deductions as applicable in paragraph 1.6, (d) total royalties due, (e) names and addresses of all Sublicensees. Such reports shall be due within forty-five (45) days following the

last day of each calendar quarter in each year during the term of this Agreement. Each such report shall be accompanied by payment in full of the amount due LICENSOR in United States dollars calculated in accordance with Section 8.1 hereof.

10.2 For a period of three (3) years from the date of each report pursuant to Paragraph 10. 1, LICENSEE, shall keep records adequate to verify each such report and accompanying payment made to LICENSOR under this Agreement, and an independent certified public accountant or accounting firm selected by LICENSOR and acceptable to LICENSEE may have access, on reasonable notice during regular business hours, not to exceed once per year, to such records to verify such reports and payments. Such accountant or accounting firm shall not disclose to LICENSOR any information other than that information relating solely to the accuracy of, or necessity for, the reports and payments made hereunder. The fees and expense of the certified public accountant or accounting firm performing such verification shall be borne by LICENSOR unless in the event that the audit reveals an underpayment of royalty by more than ten (10%) percent, the cost of the audit shall be paid by LICENSEE.

10.3 LICENSOR shall promptly inform LICENSEE of all Improvements (including results of all clinical trials) made during the term of the Agreement. LICENSEE shall keep each Improvement confidential for a period of ninety (90) days following its disclosure to LICENSEE in order to provide sufficient time to file a patent application on said Improvement.

11. MARKING AND STANDARDS:

11.1 LICENSEE agrees to mark and have sublicensees mark Licensed Products (or their containers or labels) made, sold, or otherwise disposed of by it under the license granted in this Agreement with a proper patent notice as specified under the patent laws of the United States.

11.2 LICENSEE further agrees to maintain satisfactory standards in respect to the nature of the Licensed Products manufactured and/or sold by LICENSEE. LICENSEE, agrees that all Licensed Products manufactured and/or sold by it shall be of a quality which is appropriate to products of the type here involved. LICENSEE agrees that similar provisions shall be included in sublicenses of all tiers.

12. ASSIGNMENT:

12.1 This Agreement is not assignable by LICENSEE or by operation of law without the prior written consent of LICENSOR at its sole discretion except that LICENSEE shall have the right to transfer or assign this Agreement to any entity which acquires all or substantially all of LICENSEE's assets provided that LICENSEE gives LICENSOR thirty (30) days advance written notice of the intended assignment and considers in good faith any of LICENSOR's concerns relating to the intended assignment.

The foregoing sentence shall not be construed to require LICENSEE to obtain LICENSOR's approval of any Sublicensee.

12.2 This Agreement shall extend to and be binding upon the successors and legal representatives and permitted assigns of LICENSOR and LICENSEE.

13. NOTICE:

Any notice, payment, report or other correspondence (hereinafter collectively referred to as "correspondence") required or permitted to be given hereunder shall be mailed by certified mail or delivered by hand to the party to whom such correspondence is required or permitted to be given hereunder. If mailed, any such notice shall be deemed to have been given when mailed as evidenced by the postmark at point of mailing. If delivered by hand, any such correspondence shall be deemed to have been given when received by the party to whom such correspondence is given, as evidenced by written and dated receipt of the receiving party.

All correspondence to LICENSEE shall be addressed as follows:

Mr. Jeffrey Wolf
CEO
Heat Biologics, Inc.
Atlantic Center
119 Washington Avenue, Suite 401
Miami Beach, FL 33139

All. correspondence to LICENSOR shall be addressed, in duplicate, as follows:

FOR NOTICE:

Assistant Vice President Treasurer
327 Max Orovitz Building
1507 Levante Avenue
Coral Gables, Florida 33124-1432
Attention: Mr. Humberto Speziani

FOR NOTICE AND PAYMENT:

Office of Technology Transfer
1475 NW 12th Avenue, Suite 2012
Miami, FL 33136

Either party may change the address to which correspondence to it is to be addressed by notification as provided herein.

14. TERMINATION:

14.1 A party shall have the right to terminate this Agreement if the other party commits (a) a material breach of an obligation under this Agreement or (b) provides a false report, and continues in breach for more than ninety (90) days after receiving unambiguous written notice of such breach or false report; however, in the event LICENSEE breaches its obligations under Sections five (5) or eight (8) above, LICENSEE shall have thirty (30) days after receiving written notice to cure such breach, after which LICENSOR shall have the right to terminate this Agreement. Such termination shall be effective upon further written notice to the breaching party after failure by the breaching party to cure such default.

14.2 The license and rights granted in this Agreement have been granted on the basis of the special capability of LICENSEE to perform research and development work leading to the manufacture and marketing of the Products, Accordingly, LICENSEE covenants and agrees that in the event any proceedings under the Bankruptcy Act or any amendment thereto, be commenced by or against LICENSEE, and, if against LICENSEE, said proceedings shall not be dismissed with prejudice before either an adjudication in bankruptcy or the confirmation of a composition, arrangement, or plan of reorganization, or in the event LICENSEE shall be adjudged insolvent or make an assignment for the benefit of its creditors, or if a writ of attachment or execution be levied upon the license hereby created and not be released or satisfied within ten (10) days thereafter, or if a receiver be appointed in any proceeding or action to which LICENSEE is a party with authority to exercise any of the rights or privileges granted hereunder and such receiver be so discharged within a period of forty-five (45) days after his appointment, any such event shall be deemed to constitute a breach of this Agreement by LICENSEE and, LICENSOR, at the election of LICENSOR., but not otherwise, ipso facto, and without notice or other action by LICENSOR, shall terminate this Agreement and all rights of LICENSEE hereunder and all rights of any and all persons claiming under LICENSEE.

14.3 LICENSEE shall have the right to terminate this Agreement by providing ninety (90) days written notice of its intent to terminate this Agreement to LICENSOR.

14.4 Any termination of this Agreement shall be without prejudice to LICENSOR's right to recover all amounts accruing to LICENSOR prior to such termination and cancellation. Except as otherwise provided, should this Agreement be terminated for any reason, LICENSEE shall have no rights, express or implied, under any patent property which is the subject matter of this Agreement, nor have the right to recover any royalties paid LICENSOR hereunder. Upon termination, LICENSEE shall have the right to dispose of Licensed Products then in their possession and to complete existing contracts for such products, so long as contracts are completed within six (6) months from the date of termination, subject to the payment of royalties to LICENSOR as provided in Section 8 hereof.

15. CERTIFICATE OF INSURANCE:

15.1 LICENSEE shall maintain liability insurance coverage for the Product in the amount of three million dollars. ($3,000,000) and at no expense to LICENSOR, LICENSEE shall name LICENSOR as an additional insured. Within fourteen (14) days of execution of this Agreement, LICENSEE shall provide a certificate of insurance to LICENSOR. LICENSEE agrees to carry and keep in force, at its expense, general liability insurance with limits not less than $1,000,000 per person and $3,000,000 aggregate to cover liability for damages on account of bodily or personal injury or death to any person, or damage to property of any person. Such insurance shall contain an endorsement naming the University of Miami: as an additional insured with respect to this Agreement. Insurance Certificates should be sent to the University of Miami upon execution of this Agreement and on the anniversary of that date every year thereafter, Office of Technology Transfer, 1475 NW 12th Avenue, Sewell Building Room 2012, Miami, Florida 33136.

15.2 Licensee shall not cancel such insurance without thirty (30) days prior notice to Licensor. Such cancellation shall be cause for termination.

15.3 The terms of this provision shall extend beyond termination of the agreement.

16. USE OF NAME:

LICENSEE shall not use the name of the University of Miami, or any of its employees, or any adaptation thereof, in any publication, including advertising, promotional or sales literature without the prior written consent of Mr. Humberto Speziani, Assistant Vice President, 327 Max Orovitz Bldg., 1507 Levante Avenue, Coral Gables, FL 33124-1432. LICENSOR shall notify LICENSEE within ten (10) days of being provided notice of its decision regarding each instance of intended use of name(s) name(s). The absence of a response by LICENSOR within this ten (10) day period shall constitute implied permission for LICENSEE', to use such name in that instance. Any press releases concerning this Agreement must be mutually agreed upon by the parties.

17. GOVERNING LAW:

This Agreement shall be governed by and interpreted in accordance with the laws of the State of Florida. Any dispute arising out of this Agreement shall be heard in a court of competent jurisdiction located in Miami-Dade Country, Florida.

18. CAPTIONS:

The captions and paragraph heading of this Agreement are solely for the convenience of reference and shall not affect its interpretation.

19. SEVERABILITY:

Should any part or provision of this Agreement be held unenforceable or in conflict with the applicable laws or regulations of any jurisdiction, the invalid or unenforceable part or provision shall be replaced with a provision which accomplishes, to the extent possible, the original business purpose of such part or provision in valid and enforceable manner, and the remainder of the Agreement shall remain binding upon the parties hereto.

20. SURVIVAL:

20.1 The provisions of Sections 5, 6 and 7 shall survive the termination or expiration of this Agreement and shall remain in full force and effect.

20.2 The, provisions of this Agreement which do not survive termination or expiration hereof (as the case may be) shall, nonetheless, be controlling on, and shall be used in construing and interpreting, the rights and obligations of the parties hereto with regard to any dispute, controversy or claim which may arise under, out of, in connection with, or relating to this Agreement.

21. AMENDMENT:

No amendment or modification of the terns of this Agreement shall be binding on either party unless reduced to writing and signed by an authorized officer of the party to be bound.

22. WAIVER:

No failure or delay on the part of a party in exercising any right hereunder will operate as a waiver of, or impair, any such right. No single or partial exercise of any such right will preclude any other or further exercise thereof or the exercise of any other right. No waiver of any such right will be deemed a waiver of any other right hereunder.

23. CONFIDENTIALITY:

Each Party shall maintain all information of the other Party which is treated by such other Party as proprietary or confidential (referred to herein as "Confidential Information") in confidence, and shall not disclose, divulge or otherwise communicate such confidential information to others, or use it for any purpose, except pursuant to, and in order to carry out, the terms and objectives of this Agreement, and each party hereby agrees to exercise every reasonable precaution to prevent and restrain the unauthorized disclosure of such confidential information by any of its Affiliates, directors, officers, employees, consultants, subcontractors, sublicensees or agents. LICENSEE's Confidential Information includes but is not limited to the development plan, development reports and all other financial and business reports, strategies, and agreements (including sublicenses) of LICENSEE. The parties agree to keep the terms of this Agreement confidential, provided that each party may disclose this Agreement to their authorized agents and investors who are bound by similar confidentiality provisions. Notwithstanding the foregoing, Confidential Information of a party shall not include information which: (a) was lawfully known by the receiving party prior to disclosure of such information by the disclosing party to the receiving party; (b) was or becomes generally available in the public domain, without the fault of the receiving party; (c) is subsequently disclosed to the receiving party by a third party having a lawful right to make such disclosure; (d) is required by law, rule, regulation or legal process to be disclosed, provided that the receiving party making such disclosure shall take all reasonable steps to restrict and maintain to the extent possible confidentiality of such disclosure and shall provide reasonable notice to the other party to allow such party the opportunity to oppose the required disclosure; or (e) has been independently developed by employees or others on behalf of the receiving party without access to or use of disclosing party's information as demonstrated by written record. Each party's obligations under this Section shall extend for a period of five (5) years from termination or expiration of this Agreement.

24. UNIVERSITY RULES AND REGULATIONS:

LICENSEE understands and agrees that University of Miami personnel who are engaged by LICENSEE, whether as consultants, employees or otherwise, or who possess a material financial interest in LICENSEE, are subject to the University of-Miami's rule regarding outside activities and financial interests, and the University of Miami's Intellectual Property Policy. Any term or condition of an agreement between LICENSEE and such University of Miami personnel which seeks to vary or override such personnel's obligations to the University of Miami may not be enforced against such personnel, or the University of Miami, without the express written consent of an individual authorized to vary or waive such obligations on behalf of the University of Miami.

25. ENTIRE AGREEMENT:

This Agreement constitutes the entire agreement between the parties hereto respecting the subject matter hereof, and supercedes and terminates all prior agreements respecting the subject matter hereof, whether written or oral, and may be amended only by an instrument in writing executed by both parties hereto.

26. CONTRACT FORMATION AND AUTHORITY:

LICENSOR and LICENSEE each warrant and represent that the persons signing this Agreement on its behalf have authority to execute this Agreement and that the execution of this Agreement does not violate any law, rule or regulation applicable to it or any contract or other agreement by which it is bound.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers thereunto duly authorized to be effective as of the Effective Date.

[**SIGNATURE PAGE FOLLOWS**]

HEAT BIOLOGICS, INC.

Date: 2/18/11 By: /s/ Jeffrey Wolf

Jeffrey Wolfe
Name

CEO
Title

UNIVERSITY OF MIAMI

Date: 2/14/11 By: /s/ Humberto M. Speziani

Humberto M Speziani
Name

Assistant Vice President
Finance
Title

CONTROL # 20844

LICENSE AGREEMENT

This License Agreement (the "Agreement") is entered into and made effective the18 day of Feb., 2011 (the "Effective Date") between UNIVERSITY OF MIAMI and its School of Medicine, whose principal place of business is at 1600 N.W. 10th Avenue, Miami, Florida 33136 (hereinafter referred to as "LICENSOR") and HEAT BIOLOGICS I, INC., a Delaware corporation, whose principal place of business is at Atlantic Center, 119 Washington Avenue, Suite 401, Miami Beach, FL 33139 (hereinafter referred to as "LICENSEE").

WITNESSETH

WHEREAS, HEAT BIOLOGICS, Inc., a Delaware Corporation, ("HEAT") is the majority shareholder of the LICENSEE. With effect of July 11, 2008, HEAT and the LICENSOR have entered into a license agreement regarding the Podack Cancer Vaccine (UM97-14) which was later assigned to the LICENSEE (hereinafter also referred to Herein as the "Podack Cancer Vaccine License Agreement");

WHEREAS, LICENSOR is the sole owner of the technology and product identified as the Allogeneic Cancer Cell-based immunotherapy (UMSS114A) technology;

WHEREAS, LICENSOR is the sole owner of the patent rights relating to the Allogeneic Cancer Cell-based Immunotherapy (UMSS114A) technology

WHEREAS, LICENSOR wishes to exclusively license to LICENSEE the Allogeneic Cancer Cell-based Immunotherapy (UMSS114A) technology and patent rights related thereto:

WHEREAS, as partial consideration for the license granted herein, HEAT's subsidiary Heat Biologics II is willing to amend the July 18, 2008 license agreement between LICENSOR and Heat Biologics II to grant back to LICENSOR the exclusive rights to grant licenses to make, use, and/or sell certain biological materials only ass research reagent(s) and/or research tool(s), including research reagents and research tools for commercial purposes; and

WHEREAS, LICENSEE desires to acquire an exclusive license from LICENSOR to the Allogeneic Cancer Cell-based Immunotherapy (UMSS114A)

technology and patent rights related thereto for the purpose of commercially marketing the Allogeneic Cancer Cell-based Immunotherapy (UMSS114A) technology.

NOW THEREFORE, For these and other valuable considerations, the receipt of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS:

1.1 "Affiliate" shall mean any corporation or other business entity controlled by, controlling or under common control with LICENSEE. For this purpose, "control" shall mean direct or indirect beneficial ownership of at least a fifty percent (50%) of the voting stock of, or at least a fifty percent (50%) interest in the income of such corporation or other business entity, or such other relationship as in fact, constitutes actual control.

1.2 "Sublicensee" as used in this Agreement shall mean any third party to whom LICENSEE has granted a license to make, have made, use and/or sell the Product under the Patent Rights, provided said third party has agreed in writing with LICENSEE to accept the conditions and restrictions agreed to by LICENSEE in this Agreement.

1.3 "Patent Rights" shall mean the following United States Patent applications: U.S. patent application serial number US 61/033,425 entitled " Allogeneic Cancer Cell-Based Immunotherapy" and files on 3 March 2008; PCT patent application number PCT/US2009/001330 entitled "Allogeneic Cancer Cell-based Immunotherapy" and filed on 3 March 2009; all United States patents and foreign patents and patent applications based on these U.S. applications; all divisionals, continuations of the foregoing; and those claims in continuations-in-part of the foregoing that are described in sufficient detail in U.S. patent application serial number US 61/033,425 or PCT application number PCT/US2009/001330 to meet the requirements of 35 U.S.C. 112¶1; and any re-examination or reissues of the foregoing.

1.4 "Licensed Product" shall mean any product or part thereof which:

(a) is covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or a pending claim contained in the Patent Rights.

(b) is manufactured by using a process which is covered in whole or in party by an issued, unexpired, and not adjudicated unenforceable claim or a pending claim contained in the Patent Rights; or

(c) incorporates or comprises the Licensed Materials.

1.5 "Licensed Process: shall mean any process practiced in a country in which said process is covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or pending claim contained in the Patent Rights.

1.6 "Net Sales" shall mean the sum of all amounts invoiced on account of sale or use of Licensed Products and Licensed Processes by LICENSEE and its Affiliates or any Sublicensees to non-affiliated third party purchasers of users of Licensed Products or Licensed Processed, less (a) discounts to purchasers in amounts customary in the trade, (b) amounts for transportation or shipping charges to purchasers, (c) credits for returns, allowances or trades, and (d) taxes and duties levied on the sale or use of Licensed Products, whether absorbed by Licensee or paid by the purchaser.

1.7 "Territory" shall mean worldwide.

1.8 "Field of Use" shall mean all human healthcare and research applications.

1.9 "Licensed Materials" shall mean LICENSOR's biological materials in the possession of Dr. Eckhard Podack's laboratory at the Effective Date that are covered in whole or in part by an issued, unexpired, and not adjudicated unenforceable claim or a pending claim contained in the Patent Rights.

2. GRANT:

2.1 LICENSOR hereby grants to LICENSEE an exclusive license, subject to any rights of the U.S. government specified in section 4 below, in the Territory for the Field of Use, with the right to sublicense, under the Patent rights, to make, have made for its own use and sale, use and sell Licensed Products and Licensed Processes.

2.2 LICENSOR also hereby grants to LICENSEE an exclusive license to make, use, and/or sell the Licensed Materials in the Territory for the Field of Use. At LICENSEE's request, LICENSOR shall provide LICENSEE with a reasonable amount of Licensed Materials so that LICENSEE may reproduce such Licensed Materials for the purpose of making, selling, or using Licensed Products or Licensed Processes.

2.3 LICENSOR reserves to itself the non-transferable right to make and use Licensed Materials, Licensed Products and/or Licensed Processes solely for its internal, non-commercial: scientific research, not-for-profit clinical research, and educational purposes. Except to the extent required by law, LICENSOR shall not transfer the Licensed Materials for the purpose of making the Licensed Materials to any third party without first obtaining, in a Material Transfer Agreement, the written agreement of that third party to not use or further distribute such materials for commercial purposes. LICENSOR shall notify LICENSEE in writing of any third party request for such materials and provide LICENSEE at least ten (10) days to object to such request on the basis that such transfer would interfere with the objectives of this Agreement.

3. TERM:

The license granted by this Agreement shall be exclusive in the licensed Field of use for a term commencing as of the Effective Date of this Agreement and continue until the expiration, on a country by country basis, of all of the Patent Rights.

4. UNITED STATES LAW

4.1 Licensee understands that the Licensed Subject Matter may have been developed under a funding agreement with the Government of the United States of America and, if so, that the Government may have certain rights relative thereto. This Agreement is explicitly made subject to the Government's rights under any agreement and any applicable law or regulation. If there is a conflict between an agreement, applicable law or regulation and this Agreement, the terms of the Government agreement, applicable law or regulation shall prevail.

Specifically, this Agreement is subject to all of the terms and conditions of Title 35 United States Code sections 200 through 204, including an

obligation that Licensed Product9s) sold or produced in the United States be "manufactured substantially in the United States," and LICENSEE agrees to take all reasonable action necessary on its part as licensee to enable LICENSOR to satisfy its obligation thereunder, relating to Invention(s).

4.2 It is understood that LICENSOR is subject to United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities (including the Arms Export Control Act, as amended and the Export Administration Act of 1979), and that is obligations hereunder are contingent on compliance with applicable United States export laws and regulations. The transfer of certain technical data and commodities may require a license from the cognizant agency of the United States Government and/or written assurances by LICENSEE that LICENSEE shall not export data or commodities to certain foreign countries without prior approval of such agency. LICENSOR neither represents that a license shall not be required nor that, if required, it shall be issued.

5. PATENT PROTECTION AND INFRINGEMENT

5.1 LICENSOR, during the term of this Agreement, is responsible for the filing and the prosecution of all patents and applications where LICENSEE shall reimburse LICENSOR for all payments within thirty (30) days of invoice. LICENSOR shall keep LICENSEE fully apprised on the status of all Patent Rights and shall provide LICENSEE the opportunity to make comments and suggestions on all decisions relating to the prosecution of the Patent Rights (e.g. office actions). LICENSOR shall in good faith consider incorporating such comments and suggestions unless such incorporation would by contrary to the purposes of this Agreement.

5.2 LICENSEE shall promptly notify LICENSOR in writing of any claim of Patent Rights infringement which may be asserted against LICENSEE or LICENSOR, its Affiliates and any sublicensees because of the manufacture, use, promotion, and sale of Products.

5.3 LICENSEE shall pay to LICENSOR all past patent fees within thirty (30) days of the Effective Date. LICENSEE shall also pay to LICENSOR all future

patent fees within thirty (30) days after the LICENSEE has received the invoice from LICENSOR pertaining to each future patent fee.

5.4 LICENSEE will defend, indemnify and hold harmless LICENSOR, its trustees, officers, directors, employees and its Affiliates against any and all judgments and damages arising from any and all third party claims of Patent Rights infringement which may be asserted against LICENSOR, and Affiliates because of the manufacture, use, promotion and sale of Licensed Products except for the fuse of Licensed Materials, Licensed Products and/or Licensed Processes by Licensor pursuant to section 2.3 of this Agreement. LICENSEE will bear all costs and expenses incurred in connection with the defense of any such claims or as a result of any settlement made or judgment rendered on the basis of such claims. LICENSOR shall have no further liability to LICENSEE for any loss of damages LICENSEE may incur as a result of the invalidity of LICENSOR'S Patent Rights. LICENSOR will have the right, but not the obligation to retain counsel at is expense in connection with any such claim. LICENSOR at its option, shall have the right, within thirty days after commencement of such action, to intervene and take over the sole defense of the action at its own expense.

5.5 Upon learning of any infringement of Patent Rights by third parties in any country, LICENSEE and LICENSOR will promptly inform each other, as the case may be, in writing of that fact and will supply the other with any available evidence pertaining to the infringement. LICENSEE at its own expense, shall have the option to take whatever steps are necessary to stop the infringement at its expense and recover damages therefore. If requested by LICENSEE, LICENSOR will join in any legal actions enforcing or defending the Patent Rights against third parties deemed necessary or advisable by LICENSEE to prevent or seek damages, or both, from the infringement of the Patent Rights provided that LICENSEE funds all costs associated with such actions, using counsel mutually acceptable to LICENSEE and LICENSOR, and indemnifies and holds LICENSOR harmless with respect to any claims or damages made against or sustained by LICENSOR in connection with such involvement. In the event that LICENSOR and LICENSEE mutually bring suit, costs and expenses shall be borne by LICENSEE, and any recovery shall be shared by the parties as if such infringing sales were Net Sales. In any event, no settlement, consent, judgment or other voluntary final

disposition of the suit may be entered into without the consent of LICENSOR, which shall not be unreasonably withheld. In the event LICENSEE does not take steps to stop the infringement, LICENSOR shall have the right to bring suit at its own expense. In such event, financial recoveries will be entirely retained by LICENSOR.

5.6 LICENSOR shall have no responsibility with respect to LICENSEE'S own trademarks and trade name, and LICENSEE in respect to the use thereof will defend, indemnify and hold harmless LICENSOR against any and all third party claims.

6. INDEMNIFICATION:

6.1 LICENSEE agrees to release, indemnify and hold harmless the LICENSOR, its trustees, officers, faculty, employees and students against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including reasonable attorney's fees through the appellate levels) which may be brought against LICENSOR, or its trustees, officers, faculty, employees or students as a result of or arising out of any negligent act of omission of LICENSEE, its agents, or employees, or arising out of use, production, manufacture, sale, lease, consumption or advertisement by LICENSEE or any Sublicensee of any Licensed Product, Licensed Process, or Licensed Materials covered by this Agreement.

6.2 LICENSOR agrees to release, indemnify and hold harmless the LICENSEE, its directors, officers, employees, Affiliate, Sublicensees, and agents against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including reasonable attorney's fees through the appellate levels) which may be brought against LICENSEE, its directors, officers, employees, Affiliates Sublicensees, and/or agents as a result of or arising out of nay willful misconduct, or negligent act or omission of LICENSOR.

6.3 This Agreement to reimburse and indemnify under the circumstances set forth above shall continue after the termination of this Agreement.

7. REPRESENTATIONS/WARRANTIES:

7.1 LICENSOR hereby represents and warrants to LICENSEE that LICENSOR owns the Patent Rights and Licensed Materials and has not assigned any rights therein or given any license or other rights thereto to any party other than LICENSEE.

7.2 LICENSOR hereby represents and warrants that, although it has not conducted any investigation, it has no knowledge or any patents or patent applications, other than the Patents Rights, that contain a claim that would be infringed by the sale of use of a Licensed Product, Licensed Process or Licensed Materials.

7.3 EXCEPT AS PROVIDED ABOVE, LICENSOR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND HEREBY DISCLAIMS ALL SUCH WARRANTIES, AS TO ANY MATTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, THE CONDITION OF ANY INVENTION(S) OR PRODUCT, WHETHER TANGIBLE OR INTANGIBLEE, LICENSED UNDER THIS AGREEMENT; OR THE MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE INVENTION OR PRODUCT; OR THAT THE USE OF THE LICENSED PRODUCT WILL NOT INFRINGE ANY PATENT, COPYRIGHTS, TRADEMARKS, OR OTHER RIGHTS. OTHER THAN FOR BREACH OF THE ABOVE WARRANTIES, OR ITS OWN NEGLIGENT ACTS OR OMISSIONS, LICENSOR SHALL NOT BE LIABLE FOR ANY DIRECT, CONSEQUENTIAL, OR OTHER DAMAGES SUFFERED BY ANY LICENSEE OR ANY THIRD PARTIES RESULTING FROM THE USE, PRODUCTION, MANUFACTURE, SALE, LEASE, CONSUPTION, OR ADVERTISEMENT OF THE PRODUCT.

7.4 EXCEPT EXPLICITLY PROVIDED FOR HEREIN, LICENSEE DOES NOT MAKE ANY OTHER REPRESENTATIONS OR GIVE ANY OTHER EXPLICIT OF IMPLICIT WARRANTIES. TO THE FULLEST EXTENT PERMITTED BY LAW, LICENSEE HEREBY DISCLAIMS ANY OTHER REPRESENTATIONS AND WARRANTIES.

7.5 The provisions of this Section shall continue beyond the termination of this Agreement.

8. ROYALTIES:

8.1 In consideration of the license herein granted, LICENSEE shall pay royalties to LICENSOR as follows:

(a) LICENSEE agrees to pay to LICENSOR all past patent fees within thirty (30) days of the Effective Date as well as any future patent fees as set out in section 5.3 of this Agreement.

(b) LICENSEE agrees to pay to LICENSOR as earned royalties a royalty calculated as a percentage of LICENSEE's Net Sales of Licensed Products which, if not for this Agreement, would infringe the Patent Rights, in accordance with the terms and conditions of this Agreement. The royalty is deemed earned as of the earlier of the date the Licensed Product and/or Licensed Process is actually sold and paid for, the date an invoice is sent y LICENSEE, or the date a Licensed Product and/or Licensed Process is transferred to a third party for any promotional reasons. The royalty shall remain fixed while this Agreement is in effect at a rate of five percent (5) or Net Sales.

(c) For a sublicense, LICENSEE shall pay to LICENSOR an amount equal to twenty-percent (20%) of what LICENSEE would have been required to pay to LICENSOR had LICENSEE sold the amount of Licensed Products sold by the Licensee. In addition, if LICENSEE receives any fees, minimum royalties, or other payments in consideration for any rights granted under a Sublicense, and such payments are not based directly upon the amount or value of Licensed Products or Licensed Processes sold by the Sublicensee nor represent payment of costs to LICENSEE for a development program which LICENSEE is obligated to perform under such sublicense,, then LICENSEE shall pay LICENSOR twenty percent (20%) of such payments.

(d) In the event that licenses from third parties are required by LICENSEE in order to make, have made, use, sell, offer to sell or import any particular Licensed Product of Licensed Process, then

the earned royalty which LICENSEE is obligated to pay LICENSOR under this Agreement shall be reduced by twenty cents ($0.20) for each one dollar ($1.00) in royalties which Licensee is obligated to pay to third parties under such licenses, further provided, however, that the royalties payable to LICENSOR under this Section shall not be reduced to less than two and one-half percent (2.5%) of the applicable Net Sales.

(e) In the event that LICENSEE requires more than one license from the LICENSOR to make, have made for its use, sell, offer to sell or import any particular Licensed Product of Licensed Process as defined in sections 1.4 and 1.5, respectively, of this Agreement, then, the combined earned royalties shall not exceed 5% of Net Sales and any sublicense fees shall not exceed twenty-percent (205%) of what LICENSEE would have been required to pay to LICENSOR had LICENSEE sold the amount of Licensed Products sold by the Sublicensee.

8.2 All payments shall be made hereunder in U.S. dollars; provided however, that if the proceeds of the sales upon which such royalty payments are based are received by the LICENSEE in a foreign currency or other form that is not convertible or exportable in dollars, and the LICENSEE does not have ongoing business operations or bank accounts in the country in which the currency is not convertible or exportable, the LICENSEE shall pay such royalties in the currency of the country in which such sales were made by depositing such royalties in LICENSOR'S name in a bank designated by LICENSOR in such country. royalties in U.S. dollars shall be computed by converting the royalty in the currency of the country in which the sales were made at the exchange rate for U.S. dollars prevailing at the close of the business day of the LICENSEE;S quarter for which royalties are being calculated as published the following day in the Wall Street Journal (or, if it ceases to be published, a comparable publication to be agreed upon from time to time by the parties), and with respect to those countries for which rates are not published in the Wall Street Journal, the exchange rate fixed for such date by the appropriate United States governmental agency.

8.3 In the event the royalties set forth herein are higher than the maximum royalties permitted by the law or regulations of a particular country, the royalty payable for sales in such country shall be equal to the maximum permitted royalty under such law or regulation.

8.4 In the event that any taxes, withholding or otherwise, are levied by any taxing authority in connection with accrual or payment of any royalties payable to LICENSOR under this Agreement, the LICENSEE shall have the right to pay such taxes to the local tax authorities on behalf of LICENSOR and the payment to LICENSOR of the net amount due after reduction by the amount of such taxes, shall fully satisfy the LICENSEE'S royalty obligations under this Agreement.

9. DILIGENCE:

9.1 LICENSEE shall use efforts at least sufficient to meet the requirements of the Bayh-Dole Act to manufacture, market and sell the Licensed Products in the Territory, and to create a demand to the Products.

9.2 LICENSEE agrees to submit reports, upon LICENSOR's request but no more than every 6 months as to its efforts to develop markets for the Licensed Products. Such reports shall include assurance by LICENSEE of its intent to actively develop commercial embodiments of Licensed Products and a summary of its efforts in this regard.

9.3 Unless LICENSEE has introduced a Licensed Product into the commercial marketplace in one of the three major markets (European Union, Japan and the United States) or has made best efforts (for avoidance of doubt it will be presumed that LICENSEE has used best efforts if it has a Licensed Product in a phase III clinical trial) to achieve the same prior to December 31, 2020. LICENSEE agrees that LICENSOR may terminate this Agreement by providing LICENSEE ninety (90) advanced written notice of its intent to terminate this Agreement. In the event the payment of earned royalties, once begun and if any are due, ceases for more than two (2) calendar quarters, and LICENSEE fails to cure this breach within two (2) months after being provided written notice of same, LICENSOR may terminate this Agreement.

10. REPORTS AND RECORDS:

10.1 Commencing one (1) year after the first sale, the LICENSEE shall furnish to LICENSOR a report in writing specifying during the preceding calendar quarter (a) the number or amount of Licensed Products sold hereunder by LICENSEE, and/or its Affiliates or Sublicensees, (b) the total billings for all Licensed Products sold, (c) deductions as applicable in paragraph 1.6, (d) total royalties due, (e) names and addresses of all Sublicensees. Such reports shall be due within forty-five (45) days following the last day of each calendar quarter in each year during the term of this Agreement. Each such report shall be accompanied by payment in full of the amount due LICENSOR in United States dollars calculated in accordance with Section 8.1 hereof.

10.2 For a period of three (3) years from the date of each report pursuant to Paragraph 10.1, LICENSEE, shall keep records adequate to verify each such report and accompanying payment made to LICENSOR under this Agreement, and an independent certified public accountant or accounting firm selected by LICENSOR and acceptable to LICENSEE may have access, on reasonable notice during regular business hours, not to exceed once per year, to such records to verify such reports and payments. Such accountant or accounting firm shall not disclose to LICENSOR nay information other than that information relating solely to the accuracy of, or necessity for, the reports and payments made hereunder. The fees and expense of the certified public accountant or accounting firm performing such verification shall be borne by LICENSOR unless in the event that the audit reveals an underpayment of royalty by more than ten (10%) percent, the cost of the audit shall be paid by LICENSEE.

11. MARKING AND STANDARDS:

11.1 LICENSEE agrees to mark and have sublicensees mark Licensed Products (or their containers or labels) made, sold, or otherwise disposed of by it under the license granted in this Agreement with a proper patent notice as specified under the patent laws of the United States.

11.2 LICENSEE further agrees to maintain satisfactory standards in respect to the nature of the Licensed Products manufactures and/or sold by LICENSEE. LICENSEE, agrees that all Licensed Products manufactured and/or sold by it shall be of a

quality which is appropriate to products of the type here involved. LICENSEE agrees that similar provisions shall be included in sublicenses of all tiers.

12. ASSIGNMENT:

12.1 This Agreement is not assignable by LICENSEE or by operation of law without the prior written consent of LICENSOR at its sole discretion except that LICENSEE shall have the right to transfer or assign this Agreement to any entity which acquires all or substantially all of LICENSEE's assets provided that LICENSEE gives LICENSOR thirty (30) days advance written notice of the intended assignment and considers in good faith any of LICENSOR's concerns relating to the intended assignment. The foregoing sentence shall not be construed to require LICENSEE to obtain LICENSOR's approval of any Sublicensee.

12.2 This Agreement shall extend to and be binding upon the successors and legal representatives and permitted assigns of LICENSOR and LICENSEE.

13. NOTICE:

Any notice, payment, report or other correspondence (hereinafter collectively referred to as "correspondence") required or permitted to be given hereunder shall be mailed by certified mail or delivered by hand to the party to whom such correspondence is required or permitted to be given hereunder. If mailed, any such notice shall be deemed to have been given when mailed as evidenced by the postmark at point of mailing. If delivered by hand, any such correspondence shall be deemed to have been given when received by the party to whom such correspondence is given, as evidenced by written and dated receipt of the receiving party.

All correspondence to LICENSEE shall be addressed as follows:

Mr. Jeffrey Wolf
CEO
Heat Biologics, Inc.
Atlantic Center
119 Washington Avenue, Suite 401

Miami Beach, FL 33139

All correspondence to LICENSOR shall be addressed, in duplicate, as follows:

FOR NOTICE:

Assistant Vice President
Treasurer
327 Max Orovitz Building
1507 Levante Avenue
Coral Gables, Florida 33124-1432
Attention: Mr. Alan J. Fish

FOR NOTICE AND PAYMENT:

Office of Technology Transfer
1475 NW 12th Avenue
Sewell Building Room 2012
Miami, FL 33136

Either party may change the address to which correspondence to it is to be addressed by notification as provided herein.

14. TERMINATION:

14.1 Any party shall have the right to terminate this Agreement if the other party commits (a) a material breach of an obligation under this Agreement or (b) provides a false report, and continues in breach for more than ninety (90) days after receiving unambiguous written notice of such breach or false report; however, in the event LICENSEE breaches it obligations under Section five (5) or eight (8) above, LICENSEE shall have thirty (30) days after receiving written notice to cure such breach, after which LICENSOR shall have the right to terminate this Agreement. Such termination shall be

effective upon further written notice to the breaching party after failure by the breaching party to cure such default.

14.2 The license and rights granted in this Agreement have been granted on the basis of the special capability of LICENSEE to perform research and development work leading to the manufacture and marketing of the Products. Accordingly, LICENSEE covenants and agrees that in the event any proceedings under the Bankruptcy Act or any amendment thereto, be commenced by or against LICENSEE, and, if against LICENSEE, said proceedings shall not be dismissed with prejudice before either an adjudication in bankruptcy or the confirmation of a composition, arrangement, or plan of reorganization, or in the event LICENSEE shall be adjudged insolvent or make an assignment for the benefit or its creditors, or if a writ of attachment or execution be levied upon the license hereby created and not be released or satisfied within ten 910) days thereafter, or if a receiver be appointed in any proceeding or action to which LICENSEE is a party with authority to exercise any of the rights or privileges granted hereunder and such receiver be so discharged within a period of forty-five (45) days after his appointment, any such event shall be deemed to constitute a breach of this Agreement by LICENSEE and, LICENSOR, at the election of LICENSOR, but not otherwise, ipso facto, and without notice or other action by LICENSOR, shall terminate this Agreement and all rights of LICENSEE hereunder and all rights of any and all persons claiming under LICENSEE.

14.3 LICENSEE shall have the right to terminate this Agreement by providing ninety (90) days written notice of its intent to terminate this Agreement to LICENSOR.

14.4 Any termination of this Agreement shall be without prejudice to LICENSOR's right to recover all amounts accruing to LICENSOR prior to such termination and cancellation. Except as otherwise provided, should this Agreement be terminated for any reason, LICENSEE shall have no rights, express or implied, under any patent property which is the subject matter of this Agreement, nor have the right to recover any royalties paid LICENSOR hereunder. Upon termination, LICENSEE shall have the right to dispose of LICENSED Products then in their possession and to complete existing contracts for such products, so long as contracts are completed within six (6)

months from the date of termination, subject to the payment of royalties to LICENSOR as provided in Section 8 hereof.

15. CERTIFICATE OF INSURANCE

15.1 LICENSEE shall maintain liability insurance coverage for the Product in the amount of three million dollars ($3,000,000) and at no expense to LICENSOR, LICENSEE shall name LICENSOR as an additional insured. Within fourteen (14) days of execution of this Agreement, LICENSEE shall provide a certificate of insurance to LICENSOR. LICENSEE agrees to carry and keep in force, at its expense, general liability insurance with limits not less than $1,000,000 per person and $3,000,000 aggregate to cover liability for damages on account of bodily or personal injury or death to any person, or damage to property of any person. Such insurance shall contain an endorsement naming the University of Miami as an additional insured with respect to this Agreement. Insurance Certificates should be sent to the University of Miami upon execution of this Agreement and on the anniversary of that date every year thereafter, Office of Technology Transfer, 1475 NW 12th Avenue, Sewell Building Room 2012, Miami, Florida 33136.

15.2 Licensee shall not cancel such insurance without thirty (30) days prior notice to Licensor. Such cancellation shall be cause for termination.

15.3 the terms of this provision shall extend beyond termination of the agreement.

16. USE OF NAME:

LICENSEE shall not use the name of the University of Miami, or any of its employees, or any adaptation thereof, in any publication, including advertising, promotional or sales literature without the prior written consent of Mr. Humberto Speziani, Assistant Vice President, 327 Max Orovitz Bldg., 1507 Levante Avenue, Coral Gables, FL 33124-1432. LICENSOR shall notify LICENSEE within ten (10) days of being provided notice of its decision regarding each instance of intended use of name(s) names(s). The absence of a response by LICENSOR within this ten (10) day period shall

constitute implied permission for LICENSEE to use such name in that instance. Any press releases concerning this Agreement must be mutually agreed upon by the parties.

17. GOVERNING LAW:

This Agreement shall be governed by and interpreted in accordance with the laws of the State of Florida. Any dispute arising out of this Agreement shall be heard in a court of competent jurisdiction located in Miami-Dade County, Florida.

18. CAPTIONS:

The captions and paragraph heading of this Agreement are solely for the convenience of reference and shall not affect its interpretation.

19. SEVERABILITY:

Should any part or provision of this Agreement be held unenforceable or in conflict with the applicable laws or regulations of any jurisdiction, the invalid or unenforceable part or provision shall be replaced with a provision which accomplishes, to the extent possible, the original business purpose of such part or provision in valid and enforceable manner, and the remainder of the Agreement shall remain binding upon the parties hereto.

20. SURVIVAL:

20.1 The provisions of Sections 5, 6 and 7 shall survive the termination or expiration of this Agreement and shall remain in full force and effect.

20.2 The provisions of this Agreement which do not survive termination or expiration hereof (as the case may be) shall, nonetheless, be controlling on, and shall be used in construing and interpreting, the rights and obligations of the parties hereto with regard to any dispute, controversy or claim which may arise under, out of, in connection with, or relating to this Agreement.

21. AMENDMENT:

No amendment or modification of the terms of this Agreement shall be binding on either party unless reduced to writing and signed by an authorized officer of the party to be bound.

22. WAIVER:

No failure or delay on the part of a party in exercising any right hereunder will operate as a waiver of, or impair, any such right. No single or partial exercise of any such right will preclude any other or further exercise thereof or the exercise of any other right. No waiver of any such right will be deemed a waiver of any other right hereunder.

23. CONFIDENTIALITY:

Each Party shall maintain all information of the other Party which is treated by such other Party as proprietary or confidential (referred to herein as "Confidential Information") in confidence, and shall not disclose, divulge or otherwise communicate such confidential information to others, or use it for any purpose, except pursuant to, and in order to carry out, the terms and objectives of this Agreement, and each party hereby agrees to exercise every reasonable precaution to prevent and restrain the unauthorized disclosure of such confidential information by any of its Affiliates, directors, officer, employees, consultants, subcontractors, sublicensees or agents. LICENSEE's confidential Information includes but is not limited to the development plan, development reports and all other financial and business reports, strategies, and agreements (including sublicenses) of LICENSEE. The parties agree to keep the terms of this Agreement confidential, provided that each party may disclose this Agreement to their authorized agents and investors who are bound by similar confidentiality provisions. Notwithstanding the foregoing, Confidential Information of a party shall not include information which: (a) was lawfully known by the receiving party prior to disclosure of such information by the disclosing party to the receiving party; (b) was or becomes generally available in the public domain, without the fault of the receiving party; (c) is subsequently disclosed to the receiving party by a third party having a lawful right to make such disclosure; (d) is required by law, rule, regulation or legal process to be disclosed, provided that the receiving party making such disclosure shall take all reasonable steps to restrict and maintain to the extent possible confidentiality of such disclosure and shall provide reasonable notice to the other party to allow such party the opportunity to oppose the required disclosure; or (e) has been independently developed by employees

or others on behalf of the receiving party without access to or use of disclosing party's information as demonstrated by written record. Each party's obligations under this Section shall extend for a period of five (5) years from termination or expiration of this Agreement.

24. UNIVERSITY RULES AND REGULATIONS:

LICENSEE understands and agrees that University of Miami personnel who are engaged by LICENSEE, whether as consultants, employees or otherwise, or who possess a material financial interest in LICENSEE, are subject to the University of Miami's rule regarding outside activities and financial interests, and the University of Miami's Intellectual Property Policy. Any term or condition of an agreement between LICENSEE and such University of Miami personnel which seeks to vary or override such personnel's obligations to the University of Miami may not be enforced against such personnel, or the University of Miami, without the express written consent of an individual authorized to vary or waive such obligations on behalf of the University of Miami.

25. ENTIRE AGREEMENT:

This Agreement constitutes the entire agreement between the parties hereto respecting the subject matter hereof, and supercedes and terminates all prior agreements respecting the subject matter hereof, whether written or oral, and may be amended only by an instrument in writing executed by both parties hereto.

26. CONTRACT FORMATION AND AUTHORITY:

LICENSOR and LICENSEE each warrant and represent that the persons signing this Agreement on its behalf have authority to execute this Agreement and that the execution of this Agreement does not violate any law, rule or regulation applicable to it or any contract or other agreement by which it is bound.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers thereunto duly authorized to be effective as of the Effective Date.

HEAT BIOLOGICS, INC.

Date: 2/18/11 By: /s/ Jeffrey Wolf

Jeffrey Wolfe
Name

CEO
Title

UNIVERSITY OF MIAMI

Date: 2/14/11 By: /s/ Humberto M. Speziani

Humberto M Speziani
Name

Assistant Vice President
Finance
Title

EXHIBIT 10.5

EXCLUSIVE LICENSE AGREEMENT

This License Agreement (the "Agreement") is entered into and made effective as of the last dated signature below (the 'Effective Date") between University of Miami, a Florida not-for-profit corporation, having business offices at 1951 NW 7th Avenue, (C234), Miami, Florida 33136 ("UNIVERSITY") and Zolovax, Inc., a for-profit company organized under the laws of Delaware and wholly owned subsidiary of Heat Biologics, Inc., having business offices at 801 Capitola Drive, Bay 12, Durham, NC 27713 ("LICENSEE"). For purposes of this Agreement, each of UNIVERSITY and LICENSEE may be individually referred to as a "Party," and collectively referred to as the "Parties."

BACKGROUND

UNIVERSITY has been assigned and owns all rights and title to certain inventions as described in patent application(s) and the UNIVERSITY invention disclosure document in Appendix A. UNIVERSITY wants to have the invention perfected and marketed as soon as possible so that resulting products may be available for public use and benefit. LICENSEE wants to acquire an exclusive license for the Patent Rights for the purposes of making, having made, and sell, using and selling Products and practicing the invention(s) disclosed and claimed in the Patent Rights, in the Territory and in the Field of Use as set forth and defined below.

1. DEFINITIONS

1.1 "Field of Use" shall mean GP96-lg-based vaccines.

1.2 "Net Sales" shall be calculated as set forth in this section, and shall mean gross amounts invoiced by LICENSEE and/or its Sublicensees on commercial sales of Products or use of Process after regulatory approval, if applicable, thereof to third parties (excluding Sublicensees), less deductions for the following, determined in accordance with generally accepted accounting principles:

(a) sales and excise taxes, value added taxes, and duties which fall due and are paid by the purchaser as a direct consequence of such sales and any other governmental charges imposed upon the importation, use or sale of Products, but only to the extent that such taxes and duties are actually included and itemized in the gross sales amounts invoiced to and specifically paid by the purchaser over and above the price of the Products;

(b) trade, quantity and cash discounts actually allowed and taken;

(c) allowances or credits to customers on account of shelf adjustments, failure to supply, rejection, withdrawal, recall or return of Products or on account of retroactive price reductions affecting Products, to the extent that such allowances or credits are actually allowed and taken;

(d) amounts not collectible after reasonable collection efforts;

(e) any charges for freight, postage, shipping or transportation or for shipping insurance;

(f) rebates and charge backs specifically related to Products on an actual credited or paid basis, including those granted to government agencies (such rebates and charge backs to be accrued as an estimate in the month in which the related Products are sold by using generally accepted accounting principles) to the extent that such rebates and charge backs are actually allowed and taken; and,

(g) sales contract administrative fees, fees paid to distributors, wholesaler fees or service charges and other payments to customers or other third parties in connection with the sale of Products, to the extent actually allowed and taken.

1.3 "Patent Rights" shall mean:

(a) the patent application(s) specifically set forth in Appendix A and any United States Patent(s) that issue therefrom or inventions originally disclosed therein or specifically described in the patents and/or any data that subsequently reduces such inventions to practice (including any and all further related provisional applications (i.e. that are subsequently combined with the patent application(s) specifically set forth in Appendix A for conversion to nonprovisional application), divisionals, continuations, and continuations-in-part solely to the extent that all of the claims of any such continuations-in-part are wholly supported by the patent application(s) and/or invention disclosure(s) set forth in Appendix A) together with re-examinations or reissue of such United States Patent(s); Parties agree to negotiate in good faith terms and conditions of licensing any improvements on a case by case basis.

(b) any foreign (non-United States) patent applications claiming priority to any patent application(s) specifically set forth in Appendix A and any patents issuing therefrom or on inventions originally disclosed therein or specifically described in the patents (including any and all divisionals, continuations, and continuations-in-part solely to the extent that all of the claims of any such continuations-in-part are wholly supported by the patent application(s) and/or invention disclosure(s) set forth in Appendix A) together with any re examinations or reissue of such foreign patent(s).

1.4 "Product" shall mean any product or part thereof made, used or sold by the LICENSEE or a Sublicensee of the LICENSEE, which:

(a) is covered by (i) an issued, unexpired claim contained in the Patent Rights that has not been revoked or held unenforceable or invalid by a decision of a court or Governmental Authority of competent jurisdiction from which no appeal can be taken, or with respect to which an appeal is not taken within the time allowed for appeal, and that has not been disclaimed or admitted to be invalid or unenforceable through reissue, disclaimer or otherwise, or (ii) a pending claim contained in the Patent Rights that has not been pending for more than five years and has not been abandoned, disclaimed, allowed to lapse or finally determined to be unallowable by the applicable government authority in a decision from which no appeal can be taken or from which no appeal is taken within the time allowed for appeal in the country in which any Products is made, used or sold;

(b) is manufactured by using a Process which is covered by (a) an issued, unexpired claim contained in the Patent Rights that has not been revoked or held unenforceable or invalid by a decision of a court or Governmental Authority of competent jurisdiction from which no appeal can be taken, or with respect to which an appeal is not taken within the time allowed for appeal, and that has not been disclaimed or admitted to be invalid or unenforceable through reissue, disclaimer or otherwise, or (b) a pending claim contained in the Patent Rights that has not been pending for more than five years and has not been abandoned, disclaimed, allowed to lapse or finally determined to be unallowable by the applicable government authority in a decision from which no appeal can be taken or from which no appeal is taken within the time allowed for appeal in the country in which any licensed Process is used or in which such Process or portion thereof is used or sold.

1.5 "Process" shall mean any process used by the LICENSEE or a Sublicensee of the LICENSEE which is covered by an issued, unexpired claim or pending claim contained in the Patent Rights.

1.6 "Sublicensee" as used in this Agreement shall mean any third party to whom LICENSEE has granted a license to make, have made, use and/or sell the Product or the Process under the Patent Rights, provided LICENSEE has requested and obtained prior written approval from UNIVERSITY, which approval shall not be unreasonably withheld. Sublicensee shall agree in writing with LICENSEE to accept the conditions and restrictions agreed to by LICENSEE in this Agreement, and LICENSEE shall, within thirty (30) days of request by UNIVERSITY, provide to UNIVERSITY a fully signed, non-redacted copy of each agreement executed by a Sublicensee, with all exhibits, appendixes, attachments and any amendments thereto, as applicable.

1.7 "Territory" shall mean the world.

1.8 "Technology" means the "Patent Rights" and additional technology, information, or other materials that will be provided by UNIVERSITY to LICENSEE, at LICENSEE's expense. Technology may or may not be confidential in nature.

2. GRANT

2.1 UNIVERSITY hereby grants to LICENSEE and LICENSEE hereby accepts an exclusive license, subject to any rights of the government in the Territory for the Field of Use, with the right to sublicense, under the Patent Rights and a nonexclusive license to the know-how developed as of Effective Date by Natasa Strbo and Laura Romero (the "Inventors") that is not encumbered by any third party rights, which is necessary to practice the Patent Rights to research, develop, make, have made, use, commercialize, market, promote, distribute, export, sell, offer to sell , or otherwise offer to dispose of Products in the Field of Use in the Territory and import the Product(s) and to practice the Process(es) described and/or claimed in the Patent Rights.

2.2 UNIVERSITY retains a non-sublicensable, non-exclusive, royalty-free, perpetual, irrevocable, worldwide right to make and to use the subject matter described and/or claimed in the Patent Rights for non-commercial, internal research, or educational purposes. Further, the United States Government may also have certain rights, title and/or interest in/to the licensed patent(s) and/or patent application(s), including but not limited to the rights to use the licensed patent(s) and/or patent application(s) for internal, non-commercial and educational purposes only.

2.3 Subject to a third party's rights, LICENSEE shall have the right of first negotiation to future patent(s) and patent application(s) the practice of which would infringe at least one claim within the "Patent Rights", which is developed from the Inventors' laboratory owned or controlled by UNIVERSITY.

3. ROYALTIES AND OTHER CONSIDERATION

3.1 In consideration of the license herein granted, LICENSEE shall pay fees and royalties to UNIVERSITY as follows:

(a) License issue fee of $20,000 (twenty thousand dollars) is due to UNIVERSITY within sixty (60) days of the Effective Date of this Agreement.

(b) Past patent expenses incurred by UNIVERSITY in the amounts and at the times as set forth in Appendix B.

(c) Running royalty in an amount equal to five percent (5%) of the annual Net Sales of the Product(s) leased or sold by or for LICENSEE or its Sublicensees ("Running Royalty"), subject

to reduction as set forth in the next sentence. In the event LICENSEE is required to pay royalties to a third party or third parties for the same Product or Process as licensed under this Agreement, then LICENSEE may reduce the Running Royalty by fifty cents ($0.50) for each one dollar ($1.00) in royalties which LICENSEE is obligated to pay to a third party or third parties under such licenses, provided however, that the royalties payable to UNIVERSITY under this section shall not be reduced to less than two and a half percent (2.5%) of annual Net Sales of the Product(s) leased or sold by or for LICENSEE or its Sublicensees. If, in any one calendar year, LICENSEE is not able to fully recover its fifty percent (50%) portion of the payments due to a third party, it shall be entitled to carry forward such right of off-set to future calendar years with respect to the excess amount. Further, if a Product is sold or provided as part of a system, package, or combination product or service that involve one or more products or services not covered by the Patent Rights (each, a "Combination Product"), Net Sales shall be calculated by multiplying the Net Sales of such Combination Product by the fraction A/(A+B), where "A" is the average unit selling price during the period in which Net Sales are being calculated for the Product included in such Combination Product when sold separately from any other products or services not covered by the Licensed IP and "B" is the total average unit selling price of the Combination Product during the same period. In the event that no market price is available for the Product included in such Combination Product when supplied or priced separately, University and Licensee shall use best efforts to determine in good faith the fair market value thereof and if they cannot determine the fair market value thereof within ten days of either parties request of a determination they shall select a third party mutually acceptable to make such determination.

However, the parties agree that Licensee may only apply one of the aforementioned (i) royalty rate reduction of not less than two and a half percent (2.5%) of annual Net Sales or (ii) Combination Product reduction of Net Sales, as described above, at Licensee's option. For clarity, Licensee may either apply a royalty rate reduction in connection with royalties to a third party or third parties or a Combination Product reduction of Net Sales, as described above. In any event, the royalty rate shall not be less than two and a half percent (2.5%).

(d) By the first (1st) day of each anniversary of the Effective Date and until expiration or termination of this Agreement, LICENSEE agrees to pay UNIVERSITY an annual fee of:

(i) $2,000 (two thousand dollars) on the third (3rd) and fourth (4th) anniversaries;

(ii) $4,000 (four thousand dollars) on the fifth (5th) and sixth (6th) anniversaries;

(iii) $10,000 (ten thousand dollars) on the seventh (7th) and eighth (8th) anniversary;

(iv) $25,000 (twenty thousand dollars) on the ninth (9th) and tenth (10th) anniversaries; and

(v) $50,000 (fifty thousand dollars) on the eleventh (11th) anniversary and every anniversary thereafter. This amount shall be decreased by $25,000 (twenty-five thousand dollars) in the event that clinical trials are ongoing but regulatory authority approval has not been granted, despite best efforts on part of LICENSEE.

Such annual fees are creditable towards any other consideration, including royalty and milestone payments that are, as set forth herein, due to the UNIVERSITY by LICENSEE.

(e) Royalties are payable on a country-by-country basis beginning on the date of first commercial sale and ending on expiration of the last to expire Patent Rights in such country.

3.2 All payments hereunder shall be made in U.S. dollars.

3.3 In the event that any taxes, withholding or otherwise, are levied by any taxing authority in connection with accrual or payment of any royalties payable to UNIVERSITY under this Agreement, the LICENSEE shall be solely responsible to pay such taxes to the local tax authorities on behalf of UNIVERSITY, as a nonprofit, tax-exempt organization as defined in Section 501(c)(3) of the Internal Revenue Code. Should LICENSEE be required under any law or regulation of any government entity or authority to withhold or deduct any portion of the payments on royalties due to UNIVERSITY, then the sum payable to UNIVERSITY shall be increased by the amount necessary to yield to UNIVERSITY an amount equal to the sum it would have received had no withholdings or deductions been made. UNIVERSITY shall cooperate reasonably with LICENSEE in the event LICENSEE elects to assert, at its own expense, any exemption from any such tax or deduction.

3.4 SUBLICENSING: If LICENSEE receives any fees, minimum royalties, equity ownership, securities, or other payments in consideration for any rights granted under a sublicense of the Patent Rights, and such payments are not based directly upon the amount or value of Products or Processes sold by the Sublicensee nor represent payment of costs to LICENSEE for a development program which LICENSEE is obligated to perform under such sublicense, then LICENSEE shall pay UNIVERSITY 20% (twenty percent) of such payments; provided that this 20% shall not apply to royalty payments on Net Sales of Product, which shall be calculated as described in Section 3.1.(c) or amounts paid for purchase of securities of LICENSEE to the extent such payment does not exceed the fair market value of such securities.

3.5 Notwithstanding the Sublicensee's payment obligation to LICENSEE, LICENSEE shall be directly responsible for all royalties and payments due pursuant to this section 3.

4. COMMERCIAL DILIGENCE AND MILESTONES

4.1 LICENSEE shall use commercially reasonable efforts to develop, manufacture, market and sell Product in the Territory and will exert commercially reasonable efforts to create a demand for Product.

4.2 LICENSEE agrees to submit annual reports, as to its efforts to develop Product and markets for Product. Such reports shall include assurance by LICENSEE of its intent to actively develop commercial embodiments of the Patent Rights and a summary of its efforts in this regard.

4.3 LICENSEE, at its sole expense, shall make commercially reasonable efforts to accomplish the following:

(a) by the first day of the third (3'd) anniversary of Effective Date, pre-IND meeting with FDA (or correlate submission to regulatory organization in other country);

(b) by the first day of the fourth (4th) anniversary of Effective Date, IND submission to FDA (or correlate submission to regulatory organization in other country); and

(c) by the first day of the fifth (5th) anniversary of Effective Date, first subject treated in a phase I clinical trial

(d) LICENSEE, upon written request to UNIVERSITY, may be granted an extension of one or more of the above milestones (a)-(c) by six (6) months up to three (3) times for a total possible extension of eighteen (18) months provided LICENSEE pays UNIVERSITY a payment of a five thousand dollars ($5,000.00) fee per extension. If LICENSEE extends a particular milestone, all subsequent milestones will be extended by the same time period.

(e) The Parties agree to the following milestones and payments but not more than once even if the milestone is accomplished for more than one Product in the Territory. For the avoidance of doubt, if the same milestone is achieved by a Sublicensee of the Patent Rights, then UNIVERSITY shall share in any payments LICENSEE receives from a Sublicensee according to section 3.4 above, and the following milestones and payments will not be due. The following milestone payments shall not be creditable towards any other monies UNIVERSITY is due from LICENSEE, including but not limited to: payment of past patent costs, payment of future patent costs, royalty payments, and royalty payments associated with a Sublicensee's sale of any Product(s):

(f) Upon dosing of the first patient in the first phase I clinical trial conducted by Licensee based upon the Patent Rights in the Field of Use, LICENSEE shall pay UNIVERSITY an additional amount of $50,000 (fifty thousand dollars)

(g) Upon dosing of the first patient in the first phase II clinical trial conducted by Licensee based upon the Patent Rights in the Field of Use, LICENSEE shall pay UNIVERSITY an additional amount of $100,000 (one hundred thousand dollars)

(h) Upon dosing of the first patient in the first phase III clinical trial conducted by Licensee based upon the Patent Rights in the Field of Use, LICENSEE shall pay UNIVERSITY an additional amount of $300,000 (three hundred thousand dollars)

(i) Upon receiving marketing approval by the first regulatory authority for the first product developed by Licensee based upon the Patent Rights in the Field of Use, LICENSEE shall pay UNIVERISTY an additional amount of $1,000,000 (one million dollars)

4.4 In the event that either Party is prevented from performing under the Agreement as a result of an act of God, hurricane, war, or terrorism, any delays in or failure of performance under the Agreement shall be excused if and to the extent that such delays or failures are beyond such Party's reasonable control. UNIVERSITY and LICENSEE shall notify the other promptly upon learning of any event that may result in any delay or failure to perform. If the force majeure event occurs and continues to prevent substantial performance for more than ninety (90) days the other Party has the right to terminate this Agreement.

4.5 For the avoidance of doubt, LICENSEE shall be required to accomplish the milestones and provide payments above only one time within the development of one product or across development programs. Each milestone shall be deemed earned as of the first achievement of the milestone, and is payable one time only even if the conditions therefore are met with a subsequent Product or for a subsequent indication in the Field of Use.

5. **SPONSORED RESEARCH**. LICENSEE will in good faith negotiate with the UNIVERSITY Office of Research Administration to have UNIVERSITY conduct certain preclinical proof of concept studies that will be required for partnering the licensed Patent Rights and which LICENSEE believes are best performed by the UNIVERSITY. The result of these negotiations will be memorialized in a separate agreement signed by both Parties.

6. **TERM**. The term of this Agreement shall commence on the Effective Date and shall remain in effect until the date on which all issued patents and filed patent applications within the Patent Rights have expired or been abandoned and no royalties are due pursuant to section 3, unless this Agreement is terminated earlier in accordance with any of the other provisions of section 15.1. For the purposes of clarity, after the expiration of the last to expire Patent Rights in such country, LICENSEE shall retain a fully-paid-up, royalty free and irrevocable license to practice such Patent Rights in such country.

7. UNITED STATES LAWS

7.1 LICENSEE understands that the Patent Rights may have been developed under a funding agreement with the Government of the United States of America and, if so, that the Government may have certain rights relative thereto. This Agreement is explicitly made subject to the Government's rights under any agreement and any applicable law or regulation. If there is a conflict between an agreement, applicable law or regulation and this Agreement, the terms of the Government agreement, applicable law or regulation shall prevail. Specifically, this Agreement is subject to all of the terms and conditions of Title 35 United States Code Sections 200 through 212 (to the extent applicable), including an obligation that Product(s) sold or produced in the United States be "manufactured substantially in the United States," and LICENSEE agrees to take all reasonable action necessary on its part as licensee to enable UNIVERSITY to satisfy its obligation thereunder, relating to the Patent Rights.

7.2 It is understood that UNIVERSITY and LICENSEE are subject to United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities (including the Arms Export Control Act, as amended and the Export Administration Act of 1979), and that its obligations hereunder are contingent on compliance with applicable United States export laws and regulations. The transfer of certain technical data and commodities may require a license from the cognizant agency of the United States Government and/or written assurances by LICENSEE that LICENSEE shall not export data or commodities to certain foreign countries without prior approval of such agency. UNIVERSITY neither represents that a license shall or shall not be required nor that, if required, it shall be issued. LICENSEE represents and warrants that it will comply with, and will cause its Sublicensees to comply with all United States export control laws, rules and regulations. LICENSEE is solely responsible for any violation of such laws and regulations by itself or its Sublicensees, and it will indemnify, defend and hold UNIVERSITY harmless for the consequences of any such violation.

8. PATENT PROTECTION

8.1 Licensee shall pay for one hundred percent (100%) of the costs of patent preparation, prosecution and maintenance after the Effective Date, including all interferences, reissues, re examinations, oppositions or requests for patent term extensions. LICENSEE shall reimburse UNIVERSITY one hundred percent (100%) of third party expenses incurred by and paid for by UNIVERSITY in seeking and securing the Patent Rights prior to the Effective Date, according to the schedule set forth in Appendix B.

8.2 Subject to UNIVERSITY's authority, LICENSEE, during the term of this Agreement, is responsible for the prosecution, maintenance and enforcement of the Patent Rights in UNIVERSITY's name, for UNIVERSITY's benefit, whereby LICENSEE: (a) shall keep UNIVERSITY informed in writing of all material actions taken in this regard to permit UNIVERSITY an opportunity to review and comment thereon (b) shall consider in good faith, take into account and implement the reasonable comments made by UNIVERSITY, (c) shall not add inventors who do not have an obligation to assign their ownership interest to the UNIVERSITY to any patent or patent application among the Patent Rights without the permission of UNIVERSITY, (d) shall not abandon prosecution of any pending patent applications or fail to maintain issued patents without providing UNIVERSITY the opportunity to assume control of prosecution and maintenance of the Patent Rights as provided below, and (e) shall notify UNIVERSITY no less than forty-five (45) days where reasonably practical prior to any deadline for action set forth by the US Patent and Trademark Office or its foreign counterparts (a "Patent Office") and promptly if not reasonably practical. In the event LICENSEE desires to abandon prosecution or

maintenance of any Patent Rights filed in a particular country, LICENSEE shall provide UNIVERSITY with no less than sixty (60) days written notice prior to the Patent Office deadline for action in which LICENSEE shall document: (i) the patent/patent application number; (ii) the patent/patent application title; (iii) the country in which such patent/patent applications is issued/pending. Unless otherwise agreed to by the Parties, upon UNIVERSITY's receipt of such written notice, any and all rights granted to LICENSEE by UNIVERSITY to said patent/patent application in said country shall promptly terminate. For clarity, upon such termination of rights under such patent/patent application, UNIVERSITY shall be free to license, sell, assign, dispose of, and/or take any other action with respect to the rights to said patent/patent application at its sole and absolute discretion and with no obligation to LICENSEE. UNIVERSITY shall provide to LICENSEE reasonable assistance in the prosecution, maintenance and enforcement of the Patent Rights, at LICENSEE's request and expense.

8.3 Upon learning of any infringement of Patent Rights by third parties in any country, LICENSEE and UNIVERSITY will promptly inform each other, as the case may be, in writing of that fact and will supply the other with any available evidence pertaining to the infringement. LICENSEE, at its own expense, shall have the option to take whatever steps are necessary to stop the infringement at its expense and recover damages and will be entitled to retain all damages so recovered. If LICENSEE brings suit against an alleged infringer and UNIVERSITY is a necessary party to such suit, UNIVERSITY agrees to be named in such suit at LICENSEE's expense. In the event that UNIVERSITY and LICENSEE mutually agree to bring suit, costs and expenses shall be shared equally and any recovery in excess of expenses shall be shared equally. In any event, no settlement, consent, judgment or other voluntary final disposition of the suit that would materially or adversely affect the interests of the UNIVERSITY may be entered into without the consent of UNIVERSITY. In the event LICENSEE does not take steps to stop the infringement within ninety (90) days after notice of same by either Party, UNIVERSITY shall have the right to take whatever steps it deems necessary to stop the infringement at its expense and recover damages therefore, and will be entitled to retain all damages so recovered. Each Party shall provide to the Party enforcing any Patent Rights reasonable assistance in such enforcement, at such enforcing Party's request and expense.

9. INDEMNIFICATION AND LIMITATION OF LIABILITY

9.1 LICENSEE will defend, indemnify and hold harmless the UNIVERSITY, its trustees, officers, faculty, employees and students ("University lndemnitees") against any and all losses, expenses, claims, actions, lawsuits and judgments thereon (including attorney's fees through the appellate levels) (collectively "Liabilities") which may be brought against University Indemnities by third parties as a result of or arising out of: (a) any negligent act or omission of LICENSEE, its Sublicensees, or its or their agents or employees, or (b) the use, production, manufacture, sale, lease, consumption or advertisement by LICENSEE, its Sublicensees or its or their agents or employees of any Products; provided, however, LICENSEE shall not indemnify or hold harmless any University lndemnitee from any Liabilities to the extent that such Liabilities are finally determined to have resulted from the willful negligent acts or omissions of such University lndemnitee.

9.2 LICENSEE will defend, indemnify and hold harmless the University Indemnities against any and all judgments and damages arising from any and all third party claims of infringement which may be asserted against University Indemnities because of the manufacture, use, promotion and sale of Products. LICENSEE will bear all costs and expenses incurred in connection with the defense of any such claims or as a result of any settlement made or judgment rendered on the

basis of such claims. LICENSEE agrees to provide attorneys which shall be approved by University Indemnities at their sole and absolute discretion to defend against any actions brought or filed against any University lndemnitee hereunder with respect to the subject of indemnity contained herein, whether or not such actions are rightfully brought; provided, however, that any University lndemnitee shall have the right to retain its own counsel, at the reasonable expense of LICENSEE, if representation of such University lndemnitee by counsel retained by LICENSEE would be inappropriate because of conflict of interests or otherwise. LICENSEE agrees to keep UNIVERSITY informed of the progress in the defense and disposition of such claim, and to consult with UNIVERSITY prior to any proposed settlement.

9.3 UNIVERSITY shall have no further liability to LICENSEE for any loss or damages LICENSEE may incur as a result of the invalidity of UNIVERSITY's Patent Rights.

9.4 UNIVERSITY shall have no responsibility with respect to LICENSEE's own trademarks and trade name, and LICENSEE in respect to the use thereof will defend, indemnify and hold harmless UNIVERSITY against any and all third party claims.

9.5 UNIVERSITY is not liable for any special, consequential, lost profit, expectation, punitive or other indirect damages in connection with any claim arising out of or related to this Agreement, whether grounded in tort (including negligence), strict liability, contract, or otherwise.

9.6 This Agreement to reimburse and indemnify under the circumstances set forth above shall continue after the expiration or termination of this Agreement.

10. WARRANTIES. UNIVERSITY MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND HEREBY DISCLAIMS ALL SUCH WARRANTIES, AS TO ANY MATIER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, THE CONDITION OF ANY INVENTION (S) OR PRODUCT, WHETHER TANGIBLE OR INTANGIBLE, LICENSED UNDER THIS AGREEMENT; OR THE MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE INVENTION OR PRODUCT; OR THAT THE USE OF THE LICENSED PRODUCT WILL NOT INFRINGE ANY PATENTS, COPYRIGHTS, TRADEMARKS, OR OTHER RIGHTS; PROVIDED HOWEVER, UNIVERSITY WARRANTS THAT IT HAS NOT LICENSED THE PATENT RIGHTS TO ANY THIRD PARTY.

11. REPORTS AND RECORDS

11.1 Prior to first Net Sale, LICENSEE agrees to provide UNIVERSITY with an annual written report specifying the progress of research, development, and marketing activities. Commencing with the first (1st) calendar quarter after the first Net Sale, the LICENSEE shall provide to UNIVERSITY a written report specifying during the preceding calendar quarter (a) the number or amount of Products sold hereunder by LICENSEE and its Sublicensees, (b) the total billings for all Product(s) sold, (c) deductions as applicable to calculate Net Sales, (d) total royalties due, (e) names and addresses of all Sublicensees. Such reports shall be due within fifty (5O) days following the last day of each calendar quarter in each year during the term of this Agreement. Each such report shall be accompanied by payment in full of the amount due UNIVERSITY in United States dollars.

11.2 For a period of three (3) years from the date of each report pursuant to section 11.1, LICENSEE, shall keep records adequate to verify each such report and accompanying payment made to UNIVERSITY under this Agreement, and an independent Certified Public Accountant or Accounting Firm selected by UNIVERSITY and acceptable to LICENSEE may have access, on reasonable notice during regular business hours, not to exceed twice per year, to such records to verify such reports and payments. LICENSEE's acceptance of UNIVERSITY's selection of said Certified Public Accountant or Accounting firm shall not be unreasonably withheld. Such Accountant or Accounting Firm shall not disclose to UNIVERSITY any information other than that

information relating solely to the accuracy of, or necessity for, the reports and payments made hereunder and shall sign LICENSEE'S standard confidentiality agreement prior to obtaining access to any records. The fees and expense of the Certified Public Accountant or Accounting Firm performing such verification shall be borne by UNIVERSITY unless in the event that the audit reveals an underpayment of royalty or sublicensing fees by more than five (5%) percent, in which case the cost of the audit shall be paid by LICENSEE.

12. MARKING AND STANDARDS

12.1 LICENSEE agrees to mark and have its Sublicensees mark any and all Products (or their containers or labels) that are made, sold, or otherwise disposed of by LICENSEE or Sublicensees under the license granted in this Agreement, in accordance with and to the extent required by the applicable patent marking statute; provided that LICENSEE does not need to mark Products (or their containers or labels) if such Products are used solely for LICENSEE's own internal research purposes and/or used for validation studies on LICENSEE's behalf.

12.2 LICENSEE shall act in good faith to maintain satisfactory standards in respect to the nature of the Product manufactured and/or sold by LICENSEE. LICENSEE, shall act in good faith to ensure that all Products manufactured and/or sold by it shall be of a quality which is appropriate to Products of the type here involved. LICENSEE agrees that similar provisions shall be included by sublicenses of all tiers.

13. ASSIGNMENT

13.1 Permitted Assignment. LICENSEE may assign or delegate its rights or obligations under this Agreement only under the following circumstances:

(a) By providing UNIVERSITY with written notice of the proposed assignment, including the proposed assignee's contact information, at least thirty (30) days prior to the date of assignment, and obtaining UNIVERSITY's express written consent to the proposed assignment, which consent shall not be unreasonably withheld; or

(b) As part of a sale or change of control, regardless of whether such a sale or change of control occurs through an asset sale, stock sale, merger or other combination, or any other transfer of: (i) LICENSEE's entire or substantially all of the business; or (ii) that part of LICENSEE's business that exercises all rights granted under this Agreement.

13.2 Conditions of Assignment. Prior to any assignment, (i) the proposed assignee must agree in writing to UNIVERSITY to be bound by this Agreement, and (ii) LICENSEE must pay UNIVERSITY an assignment fee in the amount of $50,000 (fifty thousand dollars) due within thirty (30) days of assignment agreement execution. For the sake of clarity, the assignment fee shall not be applied in the event that the new assignee is a wholly-owned subsidiary of LICENSEE.

13.3 Any Other Assignment by Licensee. Any attempt by LICENSEE to assign this Agreement that fails to comply with Section 13.1and 13.2 are null and void.

14. NOTICE. Any notice, payment, report or other correspondence (hereinafter collectively referred to as "correspondence") required or permitted to be given hereunder shall be mailed by certified mail or delivered by hand to the Party to whom such correspondence is required or permitted to be given hereunder. If mailed, any such notice shall be deemed to have been given when mailed as evidenced by the postmark at point of mailing. If delivered by hand, any such correspondence shall be deemed to have been given when received by the Party to whom such correspondence is given, as evidenced by written and dated receipt of the receiving Party.

All correspondence to LICENSEE shall be addressed as follows:

Chief Executive Officer
Zolovax, Inc.
801 Capitola Drive, Bay 12
Durham, NC 27713

All correspondence to UNIVERSITY shall be addressed, in duplicate, as follows:

FOR NOTICE:

Assistant Vice President
Financial Operations University of Miami
1320 South Dixie Highway, Suite 1230
Gables One Tower
Coral Gables, FL 33146

WITH A COPY TO:

Office of the General Counsel
University of Miami
1320 South Dixie Highway, Suite 1250
Gables One Tower
Coral Gables, FL 33146

FOR NOTICE AND PAYMENT:

Office of Technology Transfer
University of Miami
1951 NW 7th Avenue, Suite 300
Miami, FL 33136

Either Party may change the address to which correspondence to it is to be addressed by notification as provided herein.

15. MISCELLANEOUS PROVISIONS

15.1 TERMINATION

(a) LICENSEE shall have the right to terminate this Agreement upon sixty (60) days prior written notice to UNIVERSITY. Such termination will not relieve Licensee of Licensee's obligation to pay any royalties or license fees owed at the time of such termination.

(b) UNIVERSITY and LICENSEE shall have the right to terminate this Agreement if the other Party commits a material breach of an obligation under this Agreement and fails to cure any such breach within thirty (30) days of receipt of written notice from non-breaching Party. A material breach shall include but not be limited to the following: (a) failure to deliver to UNIVERSITY any payment at the time such payment is due under this Agreement, (b) failure to meet or achieve milestone schedule, (c) failure to possess and maintain required insurance coverage. UNIVERSITY shall have the right to terminate this Agreement in the event LICENSEE provides a false report and continues in default for more than thirty (30) days after receiving written notice of such default or false report. Such termination shall be effective upon further written notice to the breaching Party after failure by the breaching

Party to cure. If UNIVERSITY commits a material breach or defaults, then LICENSEE has no duty to continue the payment of royalties as set forth in section 3 of this Agreement.

(c) The license and rights granted in this Agreement have been granted on the basis of the special capability of LICENSEE to perform research and development work leading to the manufacture and marketing of the Product(s). Accordingly, LICENSEE covenants and agrees that in the event any proceedings under the Bankruptcy Act or any amendment thereto, be commenced by or against LICENSEE, and, if against LICENSEE, said proceedings shall not be dismissed with prejudice before either an adjudication in bankruptcy or the confirmation of a composition, arrangement, or plan of reorganization, or in the event LICENSEE shall be adjudged insolvent or make an assignment for the benefit of its creditors, or if a writ of attachment or execution be levied upon the license hereby created and not be released or satisfied within ten (10) days thereafter, or if a receiver be appointed in any proceeding or action to which LICENSEE is a party with authority to exercise any of the rights or privileges granted hereunder and such receiver be so discharged within a period of forty-five (45) days after his appointment, any such event shall be deemed to constitute a breach of this Agreement by LICENSEE and, UNIVERSITY, at the election of UNIVERSITY, but not otherwise, ipso facto, and without notice or other action by UNIVERSITY, shall terminate this Agreement and all rights of LICENSEE hereunder and all rights of any and all persons claiming under LICENSEE.

(d) Any termination of this Agreement shall be without prejudice to UNIVERSITY's right to recover all amounts accruing to UNIVERSITY prior to such termination and cancellation. Except as otherwise provided, should this Agreement be terminated for any reason, LICENSEE shall have no rights, express or implied, under any intellectual property rights which are the subject matter of this Agreement, nor have the right to recover any royalties paid UNIVERSITY hereunder. Upon termination, LICENSEE shall have the right to dispose of Products then in their possession and to complete existing contracts for such Products, so long as contracts are completed within six (6) months from the date of termination, subject to the payment of royalties to UNIVERSITY as provided in section 3 hereof. Failure to terminate on any basis shall not prejudice or impact the UNIVERSITY's rights and ability to subsequently terminate for the same or a related basis.

15.2 INSURANCE

(a) Prior to the commencement of clinical trials, LICENSEE must maintain commercial general liability insurance in the amounts of not less than One Million Dollars ($1,000,000) per incident and $1,000,000 annual aggregate. After the commencement of the first clinical trial for the first Product but prior to the first commercial sale of a Licensed Product, LICENSEE must maintain commercial general liability insurance of not less than One Million Dollars ($1,000,000) per incident and clinical trials liability insurance of not less than Three Million Dollars ($3,000,000). After the first commercial sale of a Product, LICENSEE must maintain commercial general liability insurance in the amounts of not less than Three Million Dollars ($3,000,000) per incident and Five Million Dollars ($5,000,000) annual aggregate. Immediately prior to the commencement of the first clinical trial for the first Product, UNIVERSITY, its employees and agents, will be named as additional insured. After the first commercial sale of a Product, LICENSEE shall maintain products liability/completed operations and clinical trials insurance coverage in the amount of Ten Million Dollars ($10,000,000).

(b) LICENSEE shall not cancel such insurance without thirty (30) days prior notice to UNIVERSITY. Such cancellation without replacement insurance being obtained shall be cause for termination.

(c) The terms of this provision shall extend beyond termination of the agreement.

15.3 USE OF NAME. LICENSEE shall not use the name of the University of Miami, or any of its trustees, faculty, students or employees, or any adaptation thereof, in any publication, including advertising, promotional or sales literature without the prior written consent of Mr. Humberto M. Speziani, Assistant Vice President, Financial Operations, 1320 South Dixie Highway, Suite 1230, Gables One Tower, Coral Gables, FL 33146.

15.4 GOVERNING LAW. This Agreement shall be considered as having been entered into in the State of Florida, United States of America, and shall be construed and interpreted in accordance with the laws of the State of Florida. In any action or proceeding arising out of or relating to this Agreement (an "Action"), each of the Parties hereby irrevocably submits to the jurisdiction of any federal or state court sitting in Miami, Florida, and further agrees that any Action shall be heard and determined in such Florida federal court or in such state court. Each Party hereby irrevocably waives, to the fullest extent it may effectively do so, the defense of an inconvenient forum to the maintenance of any Action in Miami, Florida.

15.5 CAPTIONS. The captions and section headings of this Agreement are solely for the convenience of reference and shall not affect its interpretation.

15.6 SEVERABILITY. Should any part or provision of this Agreement be held unenforceable or in conflict with the applicable laws or regulations of any jurisdiction, the invalid or unenforceable part or provision shall be replaced with a provision which accomplishes, to the extent possible, the original business purpose of such part or provision in valid and enforceable manner, and the remainder of the Agreement shall remain binding upon the Parties hereto.

15.7 SURVIVAL

(a) The provisions of section 1, 7, 9, 10, 12, 14, 15.3, 15.4, 15.9 and 15.13 shall survive the termination or expiration of this Agreement and shall remain in full force and effect.

(b) The provisions of this Agreement which do not survive termination or expiration hereof (as the case may be) shall, nonetheless, be controlling on, and shall be used in construing and interpreting, the rights and obligations of the Parties hereto with regard to any dispute, controversy or claim which may arise under, out of, in connection with, or relating to this Agreement.

(c) Sublicenses in good standing shall survive termination of this license as a direct license from UNIVERSITY, provided that Sublicensees assume the obligations set forth in the definitive agreement. UNIVERSITY will enter into a direct agreement with such Sublicensees upon LICENSEE's written request.

15.8 AMENDMENT. No amendment or modification of the terms of this Agreement shall be binding on either Party unless reduced to writing and signed by an authorized officer of the Party to be bound.

15.9 NON-WAIVER. No failure or delay on the part of a Party in exercising any right hereunder will operate as a waiver of, or impair, any such right. No waiver of any of the provisions of this Agreement shall be effective unless it is in writing, and signed by the Party against whom it is asserted, and any such written waiver shall only be applicable to the specific instance to which it

relates and shall not be deemed to be a continuing or future waiver. No single or partial exercise of any such right will preclude any other or further exercise thereof or the exercise of any other right. No waiver of any such right will be deemed a waiver of any other right hereunder.

15.10 INDEPENDENT CONTRACTOR RELATIONSHIP. This Agreement is not intended to create nor shall be construed to create any relationship between LICENSEE and UNIVERSITY other than that of independent entities contracting for the purpose of effecting provisions of this Agreement. It is further expressly agreed that no work, act, commission or omission of any Party, its agents, servants or employees, pursuant to the terms and conditions of this Agreement, shall be construed to make or render any Party, its agents, servants or employees, an agent, servant, representative, or employee of, or joint venturer with, the other Party. Neither Party shall have any right to bind or obligate the other Party in any way nor shall it represent that it has any right to do so.

15.11 REPRESENTATION BY COUNSEL. Each Party acknowledges that it has had the opportunity to be represented by counsel of such Party's choice with respect to this Agreement. In view of the foregoing and notwithstanding any otherwise applicable principles of construction or interpretation, this Agreement shall be deemed to have been drafted jointly by the Parties and in the event of any ambiguity, shall not be construed or interpreted against the drafting Party.

15.12 NO THIRD PARTY BENEFICIARIES. No third persons or entities are intended to be or are third party beneficiaries of or under this Agreement, including, without limitation, Sublicensees. Nothing in this Agreement shall be construed to create any liability on the part of the Parties or their respective directors, officers, shareholders, employees or agents, as the case may be, to any such third parties for any act or failure to act of any Party hereto.

15.13 CONFIDENTIALITY. Parties shall hold each other's Confidential Information in confidence and shall not disclose Confidential Information to any third party without each other's prior written consent. "Confidential Information" means any information disclosed by Party that is not generally known to the public or, by its nature, should be reasonably considered confidential. The Parties acknowledge and agree that a breach of this section would cause irreparable harm and that either Party shall be entitled to seek equitable relief from such breach without the obligation of posting a bond or proving actual damages.

The Parties agree to keep the terms of this Agreement confidential provided that each Party may disclose this Agreement to its authorized agents and investors who are bound by similar confidentiality provisions and to the extent required by law.

15.14 ENTIRE AGREEMENT. This Agreement constitutes the entire agreement between the Parties hereto respecting the subject matter hereof, and supersedes and terminates all prior agreements respecting the subject matter hereof, whether written or oral, and may be amended only by an instrument in writing executed by both Parties hereto.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their respective officers thereunto duly authorized to be effective as of the Effective Date.

ZOLOVAX, INC.		UNIVERSITY	
	October 24, 2016		11 Oct 16
Signature	Date	Signature	Date
Jeffrey Wolf		James O'Connell	
Printed Name		Printed Name	
CEO		Director, Office of Technology Transfer University of Miami 1951 NW 7th Avenue, Suite 310 Miami, Florida 33136 United States of America	
Printed Title		Printed Title	

APPENDIX A
TECHNOLOGIES/INTELLECTUAL PROPERTY

To include Patents:

- Provisional patent application entitled: "VECTORS AND VACCINE CELLS FOR IMMUNITY AGAINST ZIKA VIRUS" and filed 11-0ct-2016 with the US Patent and Trademark Office and assigned application number 62/406,506.

APPENDIX B
SUMMARY OF CURRENT OUTSTANDING PATENT COSTS

UM Technology Number	Current Outstanding Balance	Payment terms: Outstanding patent
UMIP-114	$0 see note below	N A

As of the Effective Date, the UNIVERSITY has not received invoices related to the preparation and filing of the provisional patent application listed within Appendix A. LICENSEE agrees that the costs relating to this work shall be considered as costs incurred during the term of this Agreement and shall be payable as per Section 8.2. This cost to prepare and file the provisional patent is estimated to not exceed $10,000 (ten thousand dollars).

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14 OR RULE 15d-14 OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeffrey Wolf, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Heat Biologics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 11, 2021

By: /s/ Jeffrey Wolf
Name: Jeffrey Wolf
Title: Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13a-14 OR RULE 15d-14 OF THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, William Ostrander, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Heat Biologics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 11, 2021

By: /s/ William Ostrander
Name: William Ostrander
Title: Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

EXHIBIT 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Heat Biologics, Inc. (the "Registrant") hereby certifies, to such officer's knowledge, that:

(1) the accompanying Quarterly Report on Form 10-Q of the Registrant for the quarter ended June 30, 2021 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: August 11, 2021

By: /s/ Jeffrey Wolf
Name: Jeffrey Wolf
Title: Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 32.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Heat Biologics, Inc. (the "Registrant") hereby certifies, to such officer's knowledge, that:

(1) the accompanying Quarterly Report on Form 10-Q of the Registrant for the quarter ended June 30, 2021 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: August 11, 2021

By: /s/ William Ostrander
Name: William Ostrander
Title: Chief Financial Officer
(Principal Financial and Accounting Officer)